

**Relating Leadership, Thinking Styles,  
Self-Concept, Motivation and  
Stress Management in Education**

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**Submitted in partial fulfillment of  
the requirements for the degree of**

**Master of Education**

**Faculty of Education**

**Brock University**

**St. Catharines, Ontario**

**January 1992**

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## Abstract

Seventy-five principals and vice-principals from public elementary and secondary schools in Hamilton, Ontario, Canada participated in this study. Participants provided information concerning their thinking styles, motivations, and the physical effects of stress. This information was examined to find out how satisfaction-oriented, and how security-oriented the thinking styles of the participants were. Second, the data were analysed to see how the thinking style orientations related to life style habits and the effects of stress. The satisfaction-oriented thinking styles scored higher than all of the security-oriented thinking styles by a wide margin with a small preference for the satisfaction-people-oriented styles labelled humanistic-helpful, and affiliative as opposed to the satisfaction-task-oriented styles labeled achievement, and self-actualizing. Although all eight of the security-oriented thinking styles scored well below all of the satisfaction-oriented thinking styles on the Life Styles Inventory, the perfectionistic style scored higher than all of the security-oriented styles by an impressive margin. The next highest scores were recorded by a cluster of three passive-defensive people-oriented thinking styles labeled approval, conventional, and dependent. The competitive style scored lower, and the styles labeled avoidance, oppositional, and power scored the lowest of all the defensive-security-oriented styles. These findings suggest that principals and vice-principals see themselves as relaxed, flexible, and satisfied with their ability to adapt to the stress levels they experience in their lives; however, there was some support for medical research findings that suggest that specific security-oriented thinking styles are associated with emotional stresses that contribute to the development of specific lifestyle habits, physical symptoms, and illnesses. Although the number of females in this study provides very limited generalizability, the findings of this study suggest that high achieving females tend to develop satisfaction-growth styles to a higher level than males, and they tend to use security-oriented styles to a lesser degree than males.

## Acknowledgements

I would like to acknowledge the helpful contributions of my instructors at the Brock Faculty of Education. Special recognition must go to Dr. Robert Knoop for his innovative, interesting and practical teaching.

I would like to express my sincere appreciation to Dr. Kristian J. Kirkwood for the time and effort he has invested over the last few years to help me complete my studies. His friendly, relaxed and encouraging personality has helped me better understand the values of patience, and perseverance.

I would like to thank the principals and vice-principals who participated in this study from the Hamilton Board of Education.

I would like to thank the staff of Human Synergistics, Ingersoll, Ontario. I have gained a deeper understanding of the relationships between thoughts, motivations, habits, and behaviours because of their diagnostic materials and courses.

I would like to thank Mrs. Anita Mullen for the support she has provided in the computer processing and publishing of this study.

Finally, I would like to thank my family for their love and support—Jackie, Jennifer, Robyn, and Meaghen. Mom and Dad—I know now that what you gave me as a child is the foundation of all of my progress.

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## **CHAPTER ONE: THE PROBLEM**

### **Introduction**

This study is an examination of the relationship between thinking patterns and more effective educational leadership.

The goal of our Canadian educational system is to help students become progressively more effective in developing their potential so they can become more balanced, productive, and happy members of society. Effective leadership is a fundamental requirement if our educational process is to become more effective in achieving this goal.

### **Evolutionary Perspective**

From a cosmic perspective, the history of species evolution on earth has been the progressive development of more effective interaction with the environment. Humankind's evolutionary strategy of brain enlargement developed relatively late in the earth's history as a result of a change in environmental selection pressures that forced a move from tree-living to ground-living, bipedalism, tool-using and hunting as a way of life (Washburn and Howell, 1960). These changes eventually gave humans more conscious awareness of reality and more effective control of their environment.

From a cultural perspective, societies have evolved from the agricultural age, to the industrial age, to the present technological age. Each age represents a

stage when humans became progressively more effective in their ability to interact with the environment at a materialistic level, even though many people would question the maturity of this success environmentally.

Although humans retain many of the evolutionary systems of the past, historically, humans have become more effective through the development of more conscious awareness of their environment together with more conscious and effective control and direction of their thought processes.

Consequently, the evolution of more effective leadership requires the development of more effective thinking patterns.

### **Background of the Problem**

#### **Influence of the Industrial Age**

Historically, the British armed forces were organized based on the disciplined, hierarchical structure of the Prussian militaristic model. Our Canadian school system evolved from these British military traditions of authority that were so successful during Britain's colonial, expansionistic era (Dennis, 1988). The fabric of this system was held together with a rigidity and structure that was built to last.

Dennis (1988) suggests that after the Second World War the rigidity of our educational system was still in step with the powerful influence of the Protestant work ethic common throughout Canada, but by the 1960s and 1970s the British



influence was wearing thinner. Our education systems came under critical review for being inflexible, inhumane, and filled with meaningless practices (Stanford and Roark, 1974).

Leaders in education responded by trying to change the process, but in reality most educators simply rearranged the content and structure of what was being taught (Stanford and Roark, 1974).

### **Influence of Technological Age**

As we approach the 21st century, the rapid changes brought about by technological advances in information, communication, and transportation make this restructuring of content approach ineffective and obsolete.

Shapiro (1988) suggests that the rigid thinking patterns, structures and systems of knowledge developed by leaders in the past were effective in a time when change occurred relatively slowly. Effective leadership during the technological era of rapid change will require the development of thinking patterns that are flexible so that decision-making can be tailored to the changing cultural landscape.

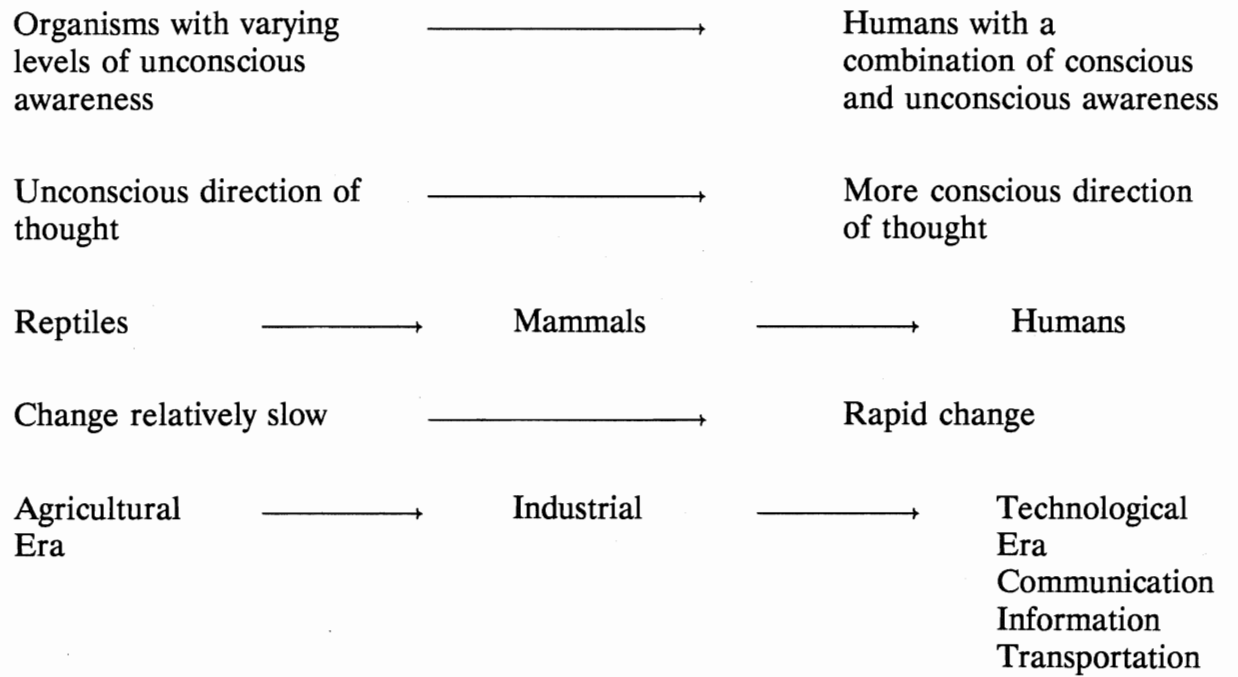
In effect, Shapiro (1988) is suggesting that security-based conformity to rigid, ineffective power structures and their associated thinking patterns seems to be going the way of the dinosaurs. Moral and intellectual autonomy, powered by increasing concern for the humanistic values of long-term satisfaction and

self-actualization will allow more effective and creative solutions to emerge, just as mammals proved to be more creative and effective in their ability to adapt to the changing environmental conditions millions of years ago.

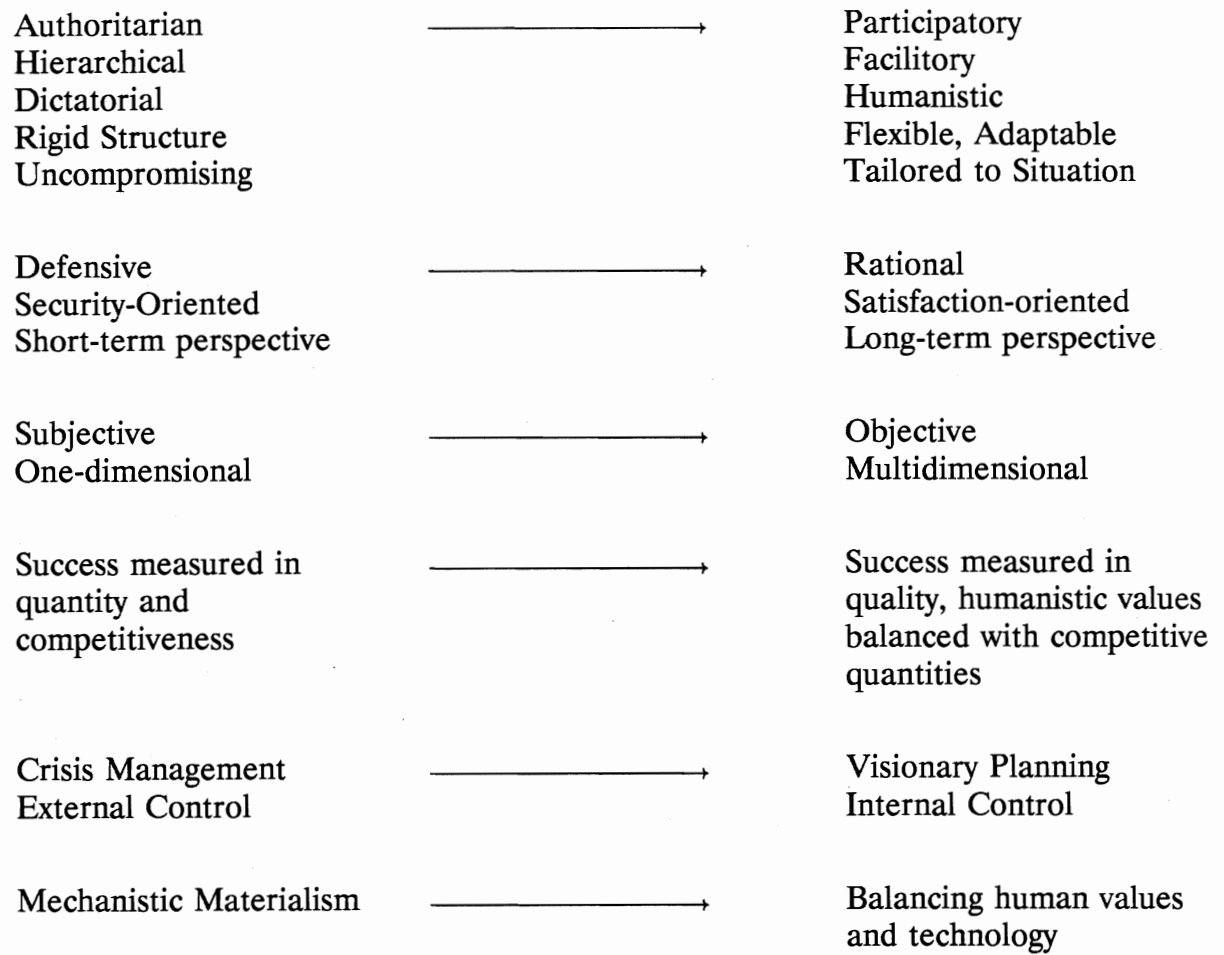
### **The Affect of Accelerant Change on Thinking Patterns**

Johnson (1981) supports Shapiro (1988) when she describes the future of educational leadership in terms of helping teachers and students become more effective at dealing with freedom, uncertainty, and accelerant change. She suggests that leaders and organizations have the responsibility of creating a climate where students learn how to adjust to rapid change through a process that would involve the continual restructuring of thought patterns to fit the evolving context of a changing physical, social, technological and organizational environment.

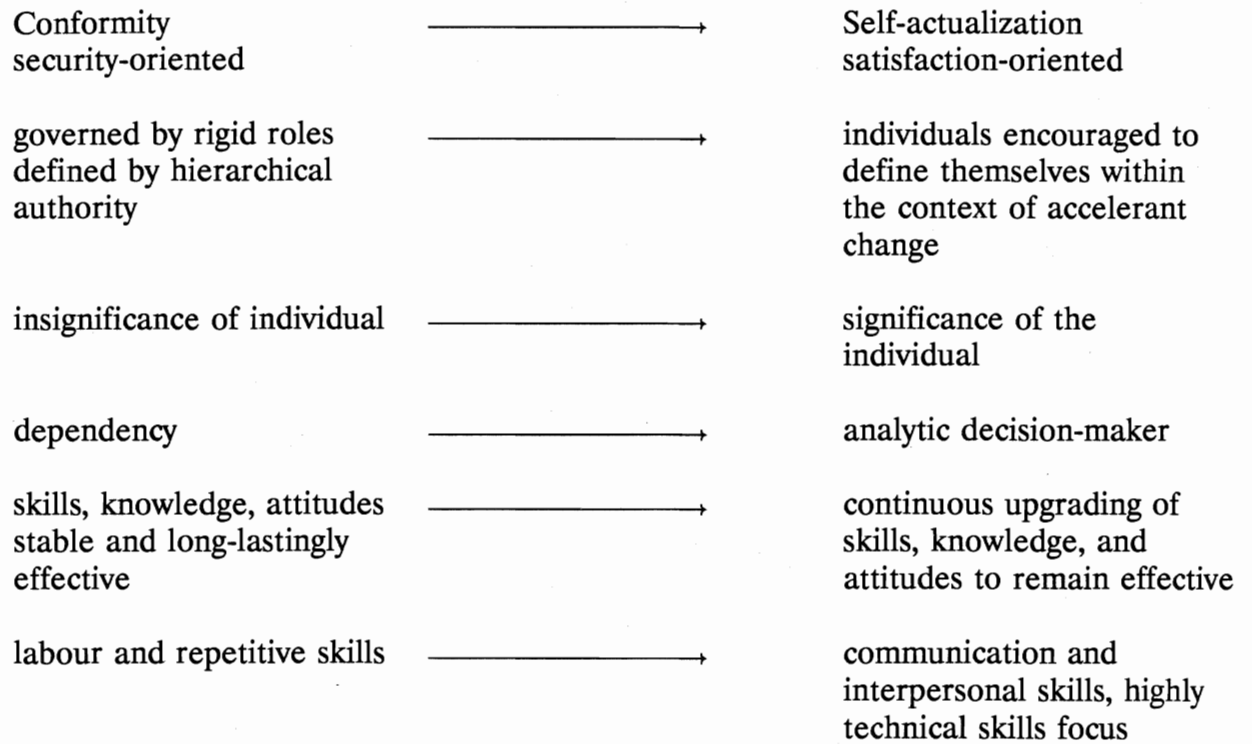
Toffler (1970), Toffler (1990), Shapiro (1988), and Johnson (1981) present ideas that focus on the evolutionary trends facing technologically advanced societies. A summary of research on evolutionary trends is presented in three figures. Figure 1 illustrates general evolutionary trends. Figure 2 illustrates evolutionary trends in power, control and leadership. Figure 3 illustrates evolutionary trends for individuals and students.



**Figure 1. General Evolutionary Trends.**



**Figure 2. Evolutionary Trends in Power and Control and Leadership.**



**Figure 3. Evolutionary Trends for Individuals and Students.**

### **Statement of Problem Situation**

Shapiro (1988), Dennis (1988), Toffler (1970), Toffler (1990), and Johnson (1981) support the conclusion that the bureaucratic, hierarchical structures that proliferate business, government and education are simply not capable of adjusting quickly enough to cope with the rapid changes confronting contemporary society. They point out that our organizational systems are not the cause of the problems in our society but a reflection of the problems created by the struggle to adapt to accelerant change.

Evolutionary cycles involve the tearing down of old ineffective structures and organizations and the values, benefits, attitudes and thoughts that created them. Conflict and chaos inevitably occur when the new threatens the old. People entrenched within the old systems try to defend and hold onto the emotional commitments they feel for the past. Order evolves out of chaos and new, more effective systems rise to prominence in creative-destructive cycles.

The problem is that the transition from the industrial smokestack era to the technological era occurring since the 1950s has, according to Toffler (1990), accelerated the cycles of change to the point where organizations and individuals are disoriented and stressed because they feel less in control of the new evolving environments.

Toffler (1990) suggests that the industrial era stimulated organizations and individuals to solve problems through a process that involved breaking down and isolating constituent parts. This mechanistic Cartesian approach led to an ordered sequential analysis, but the parts were isolated and disconnected. This may have been appropriate when change was relatively slow but the present and future pace of change demands a more systematic integrative view that is holistic. The parts will not be seen as making up the whole because they cannot be isolated since they are all connected and changing simultaneously, as in a living, growing organism.

Today's educators are in the same dilemma as politicians and businessmen. They are expected to solve the complex problems facing an increasingly multicultural society. Each interest group and localized area lobbies to influence the allocation of limited money and resources to their subjectively perceived needs. In education, more programs and curriculum is demanded by the public and mandated by the Ministry of Education to solve mushrooming problems.

Educators are under attack by parents, media, business, universities and politicians for what they perceive to be an inadequate ability to prepare students for university or the real world.

Principals and vice-principals feel this pressure as they are directly responsible for the educational climate in their school (Sergiovanni and Carver,

1980). Declining enrollment and financial cutbacks have added to a list of pressures that include: curriculum change and delivery; integration of special education students; the needs of an aging teaching staff; the effects of the fracturing of nuclear families; the influence of television and video programs on values and behaviour; and the increase of inappropriate behaviours associated with sex, violence and drugs.

Duane, Bridgeland and Stern (1986) found that principals saw themselves as integrators and coordinators reconciling the needs for overall organizational coherence while responding to the numerous specific demands of students, teachers and community. They suggested that so many factors interact that they create an environment too complex to be reduced to standard bureaucratic procedures.

### **The Source of Increased Effectiveness**

In the context of the current problems facing principals and vice-principals, leadership styles can be evaluated along a continuum that varies from effective to ineffective.

By studying the thinking patterns that make up a person's self-concept, we address the source of effective or ineffective leadership behaviours. Humans have demonstrated a superior ability and potential to adapt, adjust, and change to become more effective, but at the same time, people are often frozen in the past,



while the environment changes. This results in a tendency to repeat security-based behaviours that are no longer as effective (Lafferty, 1984). Lafferty (1984) suggests that environmental factors are often labelled as the source of stress and this allows people the opportunity to escape the responsibility for their own confused and ineffective thinking. More effective adaptation to the problems created by accelerant change in a more holistic and interconnected world begins with more objective and responsible thinking by each individual.

### **Purpose of the Study**

The purpose of this study is linked to the exploration of the fundamental assumption that the evolution of more effective leadership requires the development of more effective thinking styles. In the process of examining these relationships and assumptions, focus will be given to the basic premise that thoughts determine a person's feelings and emotional responses and these, in turn, motivate a person's behavioural responses.

Lafferty (1984) found that responses may seem spontaneous but that thoughts and mental images precede emotions and feelings. The relationships between thinking processes and stress levels indicates that a person's values, beliefs, attitudes, and cognitive interpretations control the amount and quality of emotional energy invested in specific behaviours.

Lafferty (1984) studied motivational theories, including those of Maslow (1954) to determine that increased effectiveness was enhanced through the development of more objective, internally-controlled, satisfaction-oriented thinking patterns as compared to more subjective, externally-controlled, security-oriented thinking patterns.

The relationship between thought and physiology is not totally understood, but research by Selye (1973), Pelletier (1977), and many other researchers, has determined that thoughts produce the quality and intensity of emotional feeling through a process that alters the body's physiology.

Lafferty (1984) suggests that emotional stress levels may be an important feedback source that could provide insight into an individual's thinking style and how effective they might be.

The purpose of this study is linked to a need for educators to become more aware of this mind-body relationship and how enhanced awareness and control of this relationship can be used to increase personal effectiveness. This study addresses the assumption that leaders may be able to reduce the intensity, duration, and frequency of distressful reactions in their schools. This assumption is based on the notion that more effective thinking styles focus on Maslow's (1954) higher level satisfaction needs; whereas, lower levels of effectiveness are associated with lower level, security-based survival needs.

### **Rationale**

To meet the needs of students who will face the accelerant changes created by the snowballing technological and information ages, educators must also change and adapt to become more effective.

The Hamilton Board of Education has moved from a highly traditional, centralized system to a more decentralized framework; however, the necessary infrastructure that includes cultural norms, values, and staffing lag behind. An extension of decentralization is the trend toward teachers, principals, and administrators moving to a more site-based management approach to school administration. This direction is not unique to Hamilton. It is a recognized provincial, national, and North American shift (Toffler, 1990).

Societal expectations of educators are increasing. Ministry of Education mandates, board initiatives, and interest group requests continue to place additional demands and stress on the people who deliver the curriculum.

The Hamilton Board of Education is built on the fundamental philosophy that all employees and students are learners, in the sense that each individual is a self-directed problem-solver.

Senior management, anticipating the effects of the information age and technology, has begun to prepare for the trends and changes predicted for the future by establishing a focus on the image of the learner as a self-directed problem-solver.

Staff development is seen as a critical ingredient in the process of helping staff become more adaptable in their thinking patterns. The Hamilton Board of Education has envisioned staff development as requiring a special focus on leadership development.

Clearly, the thinking patterns and attitudes of teachers and leaders within the Hamilton system are considered of fundamental importance in the primary focus of helping students become self-directed problem-solvers with excellent thinking skills.

The links between effective leadership and the development of more effective thinking patterns are clearly perceived by the educational community, specifically Hamilton, as a very important factor.

### **Questions to be Investigated**

For this study the following questions were addressed:

1. How satisfaction-oriented are the thinking styles of principals and vice-principals?
2. How security-oriented are the thinking styles of principals and vice-principals?
3. Is there a relationship between stress levels and the thinking styles of principals and vice-principals?

4. Is there a relationship between the levels of life satisfaction and the thinking styles of principals and vice-principals?
5. Is there a relationship between the levels of stress symptoms and illness, and the thinking styles of principals and vice-principals?
6. Is there a relationship between the lifestyle habits and the thinking styles of principals and vice-principals?
7. Is there a difference in the pattern of the thinking styles reported by principals and vice-principals when gender is considered?

## **CHAPTER TWO: REVIEW OF LITERATURE**

### **Introduction**

The pursuit of an understanding of human nature has been at the center of intellectual concern for centuries. Traditionally people concerned with studying human nature attempted to come to an understanding through careful observation, speculation, and logical argument. Such students of human nature were typically philosophers or theologians.

For the last century, psychology has been in the process of transforming itself from a branch of philosophy into an independent, empirical science. In the course of this transformation, observation, speculation and argument have taken a back seat to carefully controlled, rigorous experimentation into the origin of sensations, perceptions, thinking, learning, memory, motivation and behaviour (Schwartz, 1978).

This literature review will examine the research on motivation to provide a general perspective of the many factors that influence thinking patterns, behaviours and their consequent levels of effectiveness in coping with the physical and social environments.

### **Human Developmental Theories**

As a consequence, psychologists have posited many theories to explain how individuals develop and organize their personalities. Personality theories can be

classified as psychoanalytical, trait, type, cognitive, behavioural, self and existential.

Psychoanalytic theories stress the formation of personality in relation to unconscious biological drives. The Freudians approach these drives from a psycho-sexual model; whereas, the Neo-Freudians approach the study of a person's desires from psycho-social models.

Trait theories describe the nature of personality in terms of traits that are innate and others which are learned.

Type theories relate a person's personality development to physiology and anatomical structure.

Cognitive theories emphasize stages of mental organization in the development of personality.

Behavioural theories stress habit and conditioning produced by positive and negative reinforcement by the environment.

Self theories take a humanistic phenomenological approach to personality development that stresses self-actualization.

Existential theories stress that a person is a pattern of energy within the fabric of the universe who is free and responsible to become whatever he/she wishes to be.

These theories have been developed through observations made in qualitative clinical settings and others based on a more empirical experimental

method. They vary on the importance they place on the role of the conscious mind, the unconscious mind, the influence of heredity, and the function of the environment on the development of personality.

After studying the relationship of human development theory to self-concept theory in particular, it is clear that although gaps in both areas of study exist, the research is primarily mutually supportive, and repeatedly it can be seen that a holistic approach must be taken because no one theory can ever explain the diversity available for study in a complex, integrated and open system.

Washburn and Howell (1960) suggest that humankind's evolutionary strategy of brain enlargement developed late in the earth's history as a result of new selection pressures that involved ground-living, bipedalism, tool-using, and hunting as a way of life. Throughout the literature on human development one of the common themes seems to be the search to explain and understand the principles that govern human's evolutionary psychological adaptations. Piaget (1951) believed that all theories of human development are concerned with the progress made by individuals in understanding, adapting and coping with their environment.

Consequently, this literature review will examine human development theory in terms of how people are motivated to understand, adapt and cope with their environment.



### **Motivation**

The concept of motivation addresses the reasons why people direct energy toward some aspect of their environment. Behaviour may be observed directly but the motives for behaviour can only be inferred. This situation makes empirical investigation of motives difficult because they are rarely simple, isolated phenomena. Perkins (1969) suggests that motivations are powered by forces that are composed from the complex interrelationships between physical, social, emotional and psychological conditions and events. These conditions and events produce an internal state which mobilizes and directs energy within the individual toward some aspect of his environment. A person's internal basis for responding to conditions is greatly influenced by past and present events as well as future aspirations. Macdonald (1965) considered motivation to be an internal energy change within a person that is characterized by affective arousal and anticipatory goal reactions.

It seems that internal energy imbalances create disequilibriums which move individuals from quiescent states to activated states. Emotional energy or arousal is the expression of a person's motivations. Pleasant and unpleasant emotional arousal produce feelings which are a person's subjective evaluation of a particular situation and they in turn motivate observable behaviour.

### **Historical Perspective of Motivation**

Philosophers and theologians for centuries conceived of man as a rational being, explaining behaviour in terms of a person's conscious personal will, but psychologists found that free will did not explain all of man's wants and desires.

### **Hedonism, Instincts and Drives**

Perkins (1969) found that hedonism was a prominent theory of motivation in the eighteenth century that focused on the notion of seeking pleasure and avoiding pain. This theory was found to be inadequate because conscious, subjective interpretations often leave out unconscious factors that might explain why, for example, some people do not avoid pain. Allport (1961) succinctly summarized the limitations of this theory by suggesting that happiness is at best a by-product of otherwise-motivated activity. Freud's (1975) pleasure principle suggests that the id functions hedonistically to discharge tension and restore balance. Thorndike's (1931) behaviour theory of cause and effect proposed that stimulus-response connections were strengthened or weakened if they were followed by satisfying or annoying reinforcements. More recently, McClelland (1951) suggested that when a variety of stimuli are associated with a pleasant experience any one of these stimuli may in future reactivate the pleasant feeling.

McDougall (1908) developed a theory that suggested that instincts and their associated emotions were the most important determiners of behaviour. He

believed instincts were not mere reflexes but purposeful, inherited, goal-seeking tendencies which were motivators for behaviour. He believed flight, repulsion, curiosity, pugnacity, self-abasement, self-assertion and parenthood were instincts.

Freud (1975) gave prominence to instincts in psychoanalytic theory but he focused on sex, aggression, self-preservation and death and these were seen to be more like drives.

Drive theories were used to describe energy which impels an organism to act in response to tissue needs arising from hunger, thirst, sex, or bodily inactivity. Perkins (1969) explains that drives became easier to select and define for experimental studies in measurable terms. Hull (1943) developed a reinforcement theory which describes primary and secondary or acquired drives. Hull (1943) described primary drives as arousal states produced by physiological deprivation; whereas, secondary acquired drives were considered stimuli present at the time primary drives are activated. Pain would be a primary drive, whereas fear would be an acquired drive. Hull's (1943) theory suggests that drive-reduction responses are reinforced so these behaviours tend to be repeated and become habitual learned behaviours.

Darwin's (1872) theory of evolution provided an impetus for development of more objective and scientific theories of motivation. He found that higher animals and especially humans possessed fewer innate, instinctive behaviour patterns because most of human behaviour is learned and reflects the advantage

of a highly developed brain and nervous system.

### **Behaviour and Motivation**

Behaviour theory or learning theory is one branch of psychology that seeks to determine the regularities of human behaviour and how experience changes people in lawful, predictable ways.

Behaviour theory emphasizes environmental events as playing the key role in determining human behaviour. Skinner (1953) believed that functional associations between stimulus and response within the environment were developed through conditioning. After studying conditioning he came to believe all behaviours, values, attitudes, and emotional responses were determined by associated stimuli encountered in the past and present environments.

Primary environmental reinforcers were classified as either rewarding or punishing. Rewarding reinforcement would increase the habit strength of an associated response while punishment would decrease the strength of an associated response.

Motivation for behavioural response was explained in terms of environmental conditions which produce deprivation or lack of gratification of fundamental needs and drives. Skinner (1953) agreed that people think, feel and remember, but he argues that science can gain only uncertain access to these

internal events; whereas behaviour is objective, and it can be readily observed and measured.

Bandura and Walters (1963) focused more on the social environment to develop social learning theory. He concluded that people associate the positive and negative consequences of responses to stimuli in the social environment to form rules of action concerning socially appropriate forms of expression.

Behaviour theory makes important contributions to the understanding of how modeling, sex-role stereotyping, behaviour modification, morals, ethnic and family thought patterns, and behaviours are developed through repetition to form habitual responses to stimuli in the environment. Behaviour theory accounts for the stability of self-concept as well as the association strengths of general and specific self-concepts to behaviours and achievement.

Conditioning also focuses on the development of stimulus-response associations at the unconscious level which have great strength and tenacity in directing and controlling our present thoughts and behaviours.

Infants may interact with the environment on a purely stimulus-response relationship but behaviourists decline the exploration of why the same stimulus provokes different responses in different people. Reinforcement is often unique to the personality of the individual.

Learning theorists focus on environmental conditioning as a motivational force that produces stable, recurring behaviours. The internal, subjective

motivations for behaviour are left for other disciplines.

### **Homeostasis**

Cannon (1939) found further support for drive theory through the concept of homeostasis. He found that physiological imbalances trigger homeostatic mechanisms that return an organism to a state of balance.

Cannon (1939) went on to suggest that when an external behavioural response was required to restore equilibrium, the state of arousal or drive was manifested in increased sensitivity and tense muscles.

Fletcher (1942), Stayner (1951), Toch and Hastorf (1955), and Piaget (1951) extended the concept of homeostasis to explain psychological phenomenon.

### **Cognitive Theory and Motivation**

Piaget (1952) formulated a biological view of learning that suggests that the mind adapts to the environment by processing information and structuring thoughts according to schema that become more complex with age. He found that a child's schema were developed more through perception and use of the senses, whereas adults made more use of logic and the senses.

Inhelder and Piaget (1958) describe human development as the logical progression of four intellectual stages which include: the sensori motor stage from birth to 3 years of age; the preoperational stage from 3 to 8 years of age; the

concrete operational stage from 8 to 12 years of age; and the formal, abstract operational stage from 12 to 15 years of age.

Piaget (1952) used the biological notions of assimilation and accommodation to explain the progression of intellectual structuring. He suggests that if new information, perceptions, and experience fit the existing intellectual schema then it is assimilated; whereas, if the information did not fit, then the mind would either reject it or go through a process of changing the intellectual schema to accommodate the new information which caused the disequilibrium.

Central to Piaget's (1952) development of increasingly complex intellectual structures is the concept of equilibrium or homeostasis.

Piaget (1952) describes equilibrium as the state of balance between assimilation and accommodation. He describes assimilation as a form of selective perception that provides meaningful interpretation and interaction with the environment. A preponderance of assimilation tends to filter a person's perceptions of the environment so that many other more realistic perspectives are blocked. When new information alters a person's perception of reality, accommodation of this information causes disequilibrium of a person's cognitive schema, which leads toward more realistic, integrated interactions with the environment, but it creates a less meaningful and more confusing relationship with the environment in the short-term process.

Piaget (1952) found that human development is governed by the need to

strive for balance between meaningful and realistic understanding of the environment and meaningful and realistic ability to cope with the environment. He believed this balanced relationship of an organism's cognitive and behavioural systems and the environment exists to the extent that there exists a state of equilibrium between assimilation and accommodation.

Bruner (1964) incorporated Piaget's (1952) theories and stages to present an evolutionary view. He suggests that maturation is the combining of lower-level skills to form higher-level skills which allows a person to develop more integration. He argues that first internalization and storage of experience must occur, and then past experience is organized into schema whose prime objective is the retrieval of relevant information when required.

Bruner (1964) characterized three modes of representation: the enactive mode which represents past events through appropriate motor responses; the iconic mode which summarizes events through the organization of perceptual images; and the symbolic mode which represents events by abstract design features and this mode includes language.

Cognitive theorists suggest that the mind evolves and adapts to the environment by organizing thoughts according to schema that become more complex with experience. This theory accounts for the conscious rational development of perceptions, understanding, values, beliefs and attitudes; but the



role of the unconscious, the emotions and a person's feelings are left to other disciplines.

### **Need Theories of Motivation**

Need theories refer to the general and specific conditions of deficiency that arouse specific drive states. Perkins (1969) explains that needs provide the drive for goal-seeking behaviours that will reduce tensions and deficiencies so as to provide a feeling of satisfaction, balance or equilibrium. By observing external behaviour we make inferences about a person's needs and his motivations for satisfaction of these needs.

Murray (1938) identified a list of needs which have been used widely in personality and motivation research. Murray's (1938) list of needs included: abasement or submission, achievement, affiliation, aggression, autonomy or independence, defence; deference and admiration of superiors, dominance of physical and social environment, exhibition and the need to impress, harm avoidance, infavoidance or fear of failure, nurturance, order, play or fun, rejection of negative or inferior people, sentience or enjoyment of sensuality, sex or erotic relationships, succorance and sympathy, and understanding.

Raths and Burrell (1963) designed and identified eight needs that included: belonging, achievement, economic security, freedom from fear, love and affection, freedom from guilt, self-respect and understanding.

### **Maslow's Hierarchy of Needs**

Maslow's (1954) theory is based on his therapeutic observations as a clinical psychologist; he discovered that people are motivated to satisfy universal needs which are arranged in a hierarchical order. He argued that lower level-needs must be satisfied to a certain degree before higher-level needs can be pursued.

The first level of Maslow's (1954) hierarchy involves satisfaction of an individual's physiological, biological, tissue needs; the second level refers to safety and security needs; the third level involves the need for love and the satisfaction that comes from a sense of belonging when social needs are met; the fourth level involves the satisfaction gained from self-esteem and the esteem of others; and lastly, the need for self-actualization and more authentic self-expression of one's own potential.

Maslow (1954) found that a satisfied need was not an effective motivator, so he discovered that both notions, gratification and deprivation were important. He reasoned that the gratification of a need releases a person from the domination of that need allowing the emergence of a higher-level need. So, Maslow (1954) addresses the themes of motivation, change and control in terms of a person's satisfaction or dissatisfaction of needs.

Maslow (1954) theorized that safety and security needs at the second level are expressed by many people as a preference for the familiar rather than the

unfamiliar and the known rather than the unknown; thus, most people tend to avoid the anxiety associated with change, and reaching for the self-actualization level of the hierarchy.

Maslow (1954) studied people he considered to have reached self-actualization to determine the characteristics of people who reach self-fulfillment. He found these individuals were: able to tolerate change; were more realistic, objective and self-accepting; they accepted the differences of others easier; showed more consistency of thought and behaviour; had established deep and satisfying interpersonal relationships; confronted their fears and tried to give up their defense mechanisms; assumed responsibility and worked hard at what they considered to be their life work.

Maslow's (1954) theory based on the hierarchy of needs is widely accepted because it seems so logical, but little research evidence exists to support this theory, particularly the notion of prepotency between levels of the hierarchy. Maslow's (1954) theory has become a building block for other motivational theories, but the original theory needs more thorough investigation.

### **Primary and Acquired Motivations**

Perkins (1969) describes biological motivations as those which have evolved genetically, and the satisfaction of these primary drives are essential to the preservation of life and to the health of each individual. Motives which relate to

the social and psychological development of humans, however, seem to be acquired through learning. Fear, for example, can be considered an acquired motive learned in response to stimuli associated with pain and discomfort.

Cross-cultural studies of many societies illustrates the numerous differences in social and psychological motivations. Some societies do not place much importance on competitiveness; however, this motive is highly prominent in Western cultures. Socioeconomic status studies show different motivations between lower- and higher-class people.

### **Psychoanalytic Theory**

Hull's (1943) reinforcement theory described primary and secondary or acquired drives, but it was Freud (1975) who is best known for his attempts to explain how acquired motives are derived from biological, physiological motivations.

Freud (1940) developed a theory of personality development that focuses on the unconscious, biological drives. His psycho-sexual model described five stages of development that include: the oral stage at age one; the anal stage at year two; the phallic stage from age 3 to age 6; the latency stage, during which children become less concerned with their bodies and more concerned with coping with the environment; and the genital stage which occurs in adolescence. He argued that problems in any of these stages would affect the interaction of three

major personality systems that he labeled: the id, a preconscious state which works to satisfy inherited biological drives through the pleasure principle; the ego, a conscious state which makes executive decisions based on the reality principle; and the superego or moral conscience, an unconscious state which judges decisions based on internalized values, beliefs and attitudes (Freud, 1940).

Freud (1975) argued that all behaviour is motivated by painful stimulation, homeostatic need, sexual appetite, or acquired motives based on these. He believed that biological drives, particularly sex and aggression could not be expressed directly, but they were so powerful, they had to be expressed in some way. He believed that frustrations, anxieties, and fears were created by the conflict between the superego and the ego, as a result, id impulses, tensions and energies had to be redirected and expressed in disguised forms in an attempt to avoid internal and external condemnation. Sublimation and displacement were two concepts Freud (1975) used to describe how individuals redirected id energies to cultural, artistic, professional or sports activities.

Perkins (1969) explains that psychoanalytics study the causes of unhealthy energy direction to such neurotic and psychotic behaviour as aggression, scapegoating, escapism, regression, reaction formation, repression, rationalization, projection and compartmentalization.

Adler (1927), Horney (1937), Fromm (1955), Sullivan (1953), and Erikson (1963) believed Freud (1940) placed too much emphasis on the biological instincts

so they developed psycho-social models to try to explain motivations related to social and cultural values.

Erikson's (1963) psycho-social model suggests that individuals confront the resolution of specific social crises at certain life stages. His stages included: trust-mistrust at year one; autonomy-doubt at year two; initiative-guilt at the third to fifth years; industry-inferiority at the sixth year to puberty; identity-confusion in adolescence; intimacy-isolation in early adulthood; generativity-self-absorption in middle adulthood; and integrity-despair in the aging years. Like Freud (1940), Erikson (1963) suggested that the degree of resolution of these crises affects later personality development.

Humankind's extremely successful evolutionary strategy has been specialization and development of the brain, leading to increased levels of conscious awareness of reality. At the same time, it must be remembered that primitive evolutionary structures of the brain and the unconscious levels of awareness play important functional roles within the realm of conscious-unconscious motivation.

Freud (1940) and his contemporary psychoanalytics presents an holistic approach that integrates these conscious and unconscious motivations in relation to biological drives and the social environment.

Psychoanalytic theory is primarily developed through therapeutic observation of troubled clients in clinical settings, so their findings are not based

on empirical evidence. Whether observations of patients can be extrapolated to normal individuals can be questioned. Psychoanalytics is seriously questioned as a scientific theory because of the subjective nature of the observations, but also the psycho-sexual, and psycho-social stages are ambiguous and difficult to define and validate.

### **Autonomy**

Allport (1961) developed a theory of functional autonomy of motivations. He contends that primary instincts and acquired drives are inadequate for explaining the uniqueness, spontaneity, and future-oriented behaviour associated with adult motivation. Allport (1961) found that a child's early physiological and social drives were expressed in relation to their dependence on parents; but eventually these drives are replaced by self-sustaining personal goals and standards that are often much different than earlier dependent drives.

Humanistic theories focus more on this notion that humankind grows more independent and self-sufficient as he or she moves toward self-realization.

### **Self Theory**

Self theory is a phenomenological approach to human development that emphasizes each individual's subjective internal and unique interpretations of the physical, social and psychological environments. A person's thinking patterns are

thought to be the prime motivators of a person's learning and behaviour. Self theories are considered humanistic because they focus on the qualities that differentiate humans from animals. Rogers (1977) accepted the biological needs but considered them subservient and part of a person's motivation to maintain and enhance his/her existence within the limits set by heredity.

Rogers (1951) observed emotionally troubled people in therapy to determine what he believed was an innate motivation for people to move in the direction of positive development and change. Rogers (1970) describes this tendency as growing toward the ideal self and he concluded that the closer the real self was to the ideal self the more fulfilled a person would feel.

Rogers (1970) found that individuals evaluate every experience in relation to their self-concept, in effect filtering every experience using selective perception or selective consciousness so that feelings and experiences were consistent with their self-concept. He believed however, that a person's self-concept consisted of ideas and values about themselves and their environment that were subjective, so they did not necessarily reflect reality.

Rogers (1977) found that well-adjusted people have more consistency and agreement between their thoughts, experiences and behaviours to form self-concepts that are not rigid but able to assimilate new experiences and ideas.

The concepts of anxiety, stress and control are addressed by Rogers (1970) in terms of fear produced by subjective interpretations. He found that large



discrepancies between real and ideal self-perceptions led to dissatisfaction and insecurity. Dissatisfaction could motivate a person toward positive growth and more realistic perspectives of reality, or dissatisfaction could lead to repression and denial of reality.

The notions of internal-external frame of referencing, control, and anxiety play an important role in explanations of how self-concepts form and adapt to the social environment. Rogers (1961) found that children internalized the evaluations of significant others and conformed to avoid anxiety or punishment. He observed that children processed stressful experiences by feeling ashamed and bad, feeling rejected and unloved, or they denied these urges; all of which are a selectively perceived distortion of the truth. Rogers (1951) found denial was the easiest method of adaptation. In clinical observations, Rogers (1951) found that the more an individual felt they had to deny and repress their feelings to the unconscious, and take on the values of others, the more anxiety they felt. Rogers' (1977) solution to this problem was the suggestion that significant adults should give recognition to the validity of a person's feelings, while explaining the logic of their perspective.

### **Theory and Structure of Self-Concept**

Interest in the psychological construct of self-concept stems from the recognition by educators that positive self-concept is a valued educational

outcome. Caslyn and Kenny (1977), Purkey (1978), Burns (1979), Wylie (1979), Shavelson and Bolus (1982), Scheirer and Kraut (1979), and Rogosa (1980) support this notion, based on the assumption that improvements in self-concept may lead to improvements in educational achievement.

Shavelson, Hubner and Stanton's (1976) investigations into the features of self-concept as a psychological construct defined seven critical characteristics: a person's self-concept organizes a vast amount of information into categories that are related to one another; a person's self-concept is multifaceted with specific facets reflecting the individual's unique category system within a shared group; a person's self-concept is hierarchical, with perceptions of behaviour at the base contained within subcategories like English self-concept moving to inferences about self in more inclusive categories labeled academic and non-academic self-concept, and finally to inferences about self in general; a person's general self-concept is stable, but self-concepts become increasingly situation-specific as one descends the hierarchy and as a consequence they are less stable; a person's self-concept becomes increasingly multifaceted as a person develops from infancy to adulthood; a person's self-concept has both a descriptive (self-image) and an evaluative dimension (self-esteem); a person's self-concept can be differentiated from other psychological constructs such as academic self-concept.

Wylie (1979), Fleming and Watts (1980), Fernandes (1977), and Fernandes, Michael and Smith (1978) found support for Shavelson, Hubner and Stanton's

(1976) evidence for the multifaceted nature of self-concept but the subjective categorizations of academic self-concept, social self-concept and physical self-concept were not validated and were shown to need refinement.

Empirical data supports the notion that self-concept and achievement are related but there was no agreement as to the causal ordering involved. Shavelson and Stuart (1981) suggested the causation was reciprocal. Caslyn and Kenny (1977) determined achievement to be causally predominant. Scheirer and Kraut (1979) posited self-concept was the causal agent for achievement. Shavelson, Hubner and Stanton (1976) and Wylie (1979) found positive correlations between general self-concept, academic self-concept and academic achievement with higher correlations to academic self-concept.

These disagreements by self-concept theorists pointed out a need for a thoroughly investigated theoretical model that would establish the causal dominance between self-concept and achievement.

Shavelson and Bolus (1982) noted that self-concept research was plagued by theory and methodological problems citing Scheirer and Kraut (1979) and Shavelson, Hubner and Stanton (1976).

Shavelson and Bolus (1982) found support for the notion that self-concept was a multifaceted hierarchical structure. This multifaceted, hierarchical structure consisted of subject-matter specific self-concepts, academic self-concept and general self-concept at the apex of the hierarchy. Their hypothesis concerning the

relative stability of each tier on the hierarchy was not supported. The facets observed in the study were equally very stable but the lowest levels of the hierarchy were not measured and the six-month time frame may not have been sufficient to measure relative stability. The data did not support the interpretation that changes in self-concept operate from the base of the hierarchy upward or downward. The causal predominance of self-concept over achievement was supported in three subject areas.

The small sample size and the specificity of the sample warrants only tentative generalization. Shavelson and Bolus (1982) suggested future research should include more diverse populations with inclusion of peer and parental influences as causal or moderating variables linking self-concept and achievement.

Marsh, Parker and Smith (1983) noted the use of relatively few instruments in research on self-concept suggesting only weak evidence for construct validity of self-concept. They also addressed the need expressed by many researchers that a thoroughly investigated theoretical model of self-concept was necessary. They classified within-network studies as those which try to determine the distinct facets making up the multidimensionality of self-concept. Divergent or discriminant validity was concerned with the distinctiveness of facets measured by the relative lack of correlation. Between-network studies were defined as those trying to determine the patterns of relationships which exist between the facets of self-concept and the relations with other influential variables such as achievement.

Convergent validity was defined as concerned with the relative agreement of several methods assessing the same dimension or relationship such as self-report instruments, as well as teacher ratings.

The notion of convergent validity stems from the symbolic interactionist view presented by Ziller (1973) which suggests a person's self-concept is a looking glass reflection of perceptions about how a person appears to others.

Marsh, Parker and Smith (1983) examined the literature to clarify this view to find that Shrauger and Schoeneman (1979) found that 50 percent of the studies they reviewed showed ambiguous results when relating self-judgements and the judgements of others. Wells and Marwell (1976) discovered that when comparing the ratings of self and others that they were phenomenologically distinct, agreeing only when the external observer knew the person extremely well over a wide range of experiences; otherwise, external behaviour is only a crude indicator of self-concept making it highly unlikely self-reports and reports by others would be highly correlated.

Marsh, Parker and Smith's (1983) research does not support the symbolic interactionist hypothesis but it does not disprove this theory either. They addressed the historical problem of self-concept instrumentation weaknesses by replicating the findings of Wylie (1979), Shavelson, Hubner and Stanton (1976), Shrauger and Schoeneman (1979), Hansford and Hattie (1982), and provided stronger support for the construct validity of self-concept theory based on

Shavelson, Hubner and Stanton's model (1976).

Marsh, Parker and Smith (1983) found clear support for the multidimensionality of self-concept, but the distinctness of all facets at all levels of the hierarchy undermined support for the hierarchical nature of self-concept. Since this study was based on one self-concept instrument with children of a narrow age range, more research into the hierarchical structure is necessary.

Academic and non-academic self-concept were found to be reasonably distinct, so the usefulness of combining their scores to form a general self-concept is questioned. Shavelson, Hubner and Stanton's (1976) categories of physical and social self-concept were combined to form the non-academic self-concept category.

Marsh, Parker and Smith (1983) found that the direct relationship of academic self-concept and academic achievement had more correlation than general self-concept which indirectly correlates with achievement. The higher the academic achievement and socioeconomic status, the stronger were their correlations to academic self-concept and general self-concept. Further research into which of the variables, achievement or socioeconomic status, is necessary to determine which is more critical. These relationships discovered by Marsh, Parker and Smith (1983) replicated research by Hansford and Hattie (1982).

Marsh, Parker and Smith (1983) found that student and teacher self-concept ratings for academic self-concept were in agreement for students of

high achievement and socioeconomic status, but not in agreement when measuring non-academic self-concept. They suggested this difference needed study to determine if the differences were related to the comparables used by children and teachers.

Marsh, Parker, and Smith (1983) present a study based on an excellent sample size of 958 preadolescents aged 9 to 13 years old, which supports the development of self-concept theory based on the Shavelson, Hubner and Stanton (1976) model. Their research has raised important questions about hierarchical ordering, socioeconomic status, achievement and the different comparables used by students and teachers to measure self-concepts.

Song and Hattie (1984) cite Shavelson and Bolus (1982) as suggesting that the study of self-concept and achievement needs to be based on a good theoretical model and these studies should include environmental variables like parental influence.

Song and Hattie (1984) set out to relate theoretical models of home environment and self-concept to discover the relationship to academic achievement.

The hierarchical structure of home environment was developed by Song (1982). Home environment was divided into three major facets: family structure, socioeconomic status, and family psychological characteristics. Each category was further divided into several subcategories. Song (1982) used higher-order factor

analysis to confirm the validity of this home environment model.

The hierarchical, multifaceted structure of self-concept was based on research by Shavelson, Hubner, and Stanton (1976) and confirmed by Song and Hattie (1984) using higher-order factor analysis. Song and Hattie (1984) refined Shavelson, Hubner and Stanton's (1976) model to divide subcategories into academic self-concept, social self-concept and presentation of self.

Song and Hattie (1984) discovered that within the home environment model there were significant relationships between family structure, socioeconomic status and family psychological characteristics. They confirmed studies by Dave (1964), Knief and Stroud (1959), Marjoribanks (1978), White (1982), and Woelfel and Haller (1971) which found extremely low relations between family structure, family psychological characteristics and achievement, and only small relations between family structure and socioeconomic status. Family psychological characteristics was found to be the strongest variable within the home environment model with family structure having only weak indirect influence on family psychological characteristics through the stronger more direct relationship of socioeconomic status, which was best indexed by the ability of a family to afford further education. Connell (1974) and Halsey (1975) confirmed Song and Hattie's (1984) findings that the home environment variables of family structure and socioeconomic status relate indirectly on academic achievement by way of their effects on family psychological characteristics.



Because Song and Hattie (1984) discovered that Edwards (1974), Epps (1969), and Wylie (1963) had found no significant relations between self-concept, family structure or socioeconomic status, they decided to investigate self-concept as a mediating variable between family psychological characteristics and academic achievement.

Song and Hattie (1984) found that family psychological characteristics had differential influence on the different categories of self-concept. Family psychological characteristics had greatest effects on presentation of self, then social self-concept (non-academic self-concepts) and to a lesser degree academic self-concept. Song and Hattie (1984) found this pattern was replicated by males and females but the magnitude of influence was much stronger for males.

When Song and Hattie (1984) examined the relationships within the self-concept model they discovered that within the non-academic self-concepts that presentation of self strongly influenced social self-concept but social self-concept had little influence on presentation of self.

Song and Hattie (1984) found that both non-academic self-concepts had a strong influence on academic self-concept; however, academic self-concept had a very weak influence on non-academic self-concept.

The overall pattern Song and Hattie (1984) distinguished suggests that family psychological characteristics are weakly and indirectly influenced by family structure, and more strongly influenced by socioeconomic status. Family

psychological characteristics imparts on presentation of self strongest, social self-concept second, and weakest on academic self-concept. The two non-academic self-concepts influence academic self-concept which, in turn is the greatest influence on academic achievement.

Song and Hattie (1984) discovered there were direct influences, one-stage indirect influences and two-stage indirect influences which were mediated by a reciprocal pattern of relations among the model of home environment, self-concept and academic achievement.

Song and Hattie (1984) used structural equation modeling to compare theoretical models to measure the relative effects of the components on academic achievement. The large sample size of 2,297 Grade 9 Korean students lends credibility to their results. The generalizability of their study results will need further cross-cultural investigation also with younger and older age groupings. The relationships between the facets of home environment, self-concept and achievement were extremely complex, and this fact suggests the models and their relationships need further investigation and validation. The magnitude of the influence of family psychological characteristics on presentation of self was much stronger for boys. The socialization process that produces this level of rigidity for boys in families is a question that needs cross-cultural investigation.

Marsh, Parker and Barnes (1985) reviewed Shavelson, Hubner and Stanton's (1976) model which postulated that self-concepts were multifaceted,

hierarchically arranged, and increasing in multidimensionality with age.

Shavelson, Hubner and Stanton's (1976) theoretical model led to the development of the Self-Description Questionnaire which was designed to measure the hierarchical, multidimensional relationships of self-concept.

Marsh, Parker and Barnes (1985) found only modest correlations among the scales measuring the categories of self-concept, which demonstrated the distinctiveness of the facets of self-concept. They assert that the clarity of factor structure supports the construct validity of the Self-Description Questionnaire and the Shavelson, Hubner and Stanton (1976) model on which the instrument was based.

Self-concepts were more positive at ages 7, 11 and 12 years old, and the lowest at 9 years old. Self-concept regarding the opposite sex generally improved with age, whereas self-concepts regarding parents declined with age.

Academic self-concepts for all grade levels correlated with academic achievement and subject-specific self-concepts like math self-concept and English self-concept were uncorrelated yet both were correlated to academic self-concept.

Marsh, Parker and Barnes (1985) found the pattern of correlations of factors suggests that a higher order of factor exists but the size of the correlations argues against strong hierarchical ordering of the facets of self-concept. They also found strong support for the conclusion that adolescent, self-concept structures were more differentiated than preadolescents. They found sex differences in

specific self-concept facets, some favouring boys, others favouring girls, which when the scores were summed to form general self-concept scores, cancelled each other leaving relatively equal total self-concept scores for both sexes.

Marsh, Parker and Barnes (1985) studied the results from 901 students aged 11 to 18 years old to confirm the distinctiveness of 11 facets of self-concept. The use of the Self-Description Questionnaire, however, leads me to question the need for more variety and cross-validation of instrumentation used to measure the theoretical models of self-concept. This study found clear separation of academic and non-academic self-concept. They confirmed the separation of subject-specific self-concepts and their corresponding achievement.

The large sample size was excellent, but the labelling of ability streams within the school may have contaminated many of the participants' self-descriptions. This study is in agreement with Shavelson and Bolus (1982) that self-concept becomes more multifaceted with age.

Marsh, Smith and Barnes (1985) explored the literature on self-concept instrumentation. They found the inability of many self-concept instruments to adequately differentiate the facets of self-concept hindered theory work on the structure of self-concept. Over time they found that instruments were designed at least loosely tied to a theoretical model in studies by Shavelson, Hubner and Stanton (1976), Wylie (1979) and Marsh and Smith (1982). Factor analysis has provided strong support for the multidimensionality of self-concept in studies by

Boersma and Chapman (1979), Dusek and Flaherty (1981), Fleming and Courtney (1984), Harter (1982), and L. M. Soares and A. T. Soares (1977). The strongest support for multidimensionality of self-concept, particularly the facets proposed in the Shavelson, Hubner and Stanton (1976) model, comes from work with the Self-Description Questionnaire (Marsh, Barnes, Cairns & Tidman, 1984; Marsh, Relich & Smith 1983).

Recent research has emphasized the multidimensionality of self-concept; but historically, researchers have focused on general, total, global or overall self-concept. Harter (1982) distinguished between three implicit definitions of the term general self-concept: a total score across a broad collection of self-report items; a higher order factor inferred to be the apex of a hierarchy of more specific self-concept facets; a separate, distinguishable facet that is viewed as a superordinate dimension that is sometimes called self-esteem.

Marsh, Smith and Barnes (1985) revised the Self-Description Questionnaire to include general self-concept based on the Rosenberg (1965) self-esteem scale in response to the need to empirically examine general self-concept. They found that exploratory and confirmatory factor analyses supported the inclusion of the general self-concept scale, and that this general self-concept is reasonably invariant across responses by boys and girls. This research analysis was expected by Marsh, Smith, and Barnes (1985) to be the precursor to further factor analysis across other subgroups, including: different age groups, different socioeconomic

status groups, and different ethnic groups.

Marsh, Smith and Barnes (1985) present a study of 559 fifth-grade students that is biased by a sample that is predominantly male, 10 years old, and all participants were from a private Catholic Australian school. The specificity of the sample makes generalizability hazardous.

Newburger and Daniel (1985) conducted their study based on the assumption that increased self-concept leads to improved communication effectiveness. This assumption was based on research by Marsh and Smith (1982), Newburger (1982), Wylie (1979), and Moran, Michael and Dembo (1978).

Newburger and Daniel (1985) reviewed early developments in self-concept research to gain insight into how self-concept theory evolved. Sapir (1927) suggested that communication is intuitively interpreted as an index of personality expression. Murray (1938) suggested that speech and personality grow, develop, differentiate and become refined together with speech becoming an expression of self-concept. Rogers (1951) proposed a theory of personality development and change in which the concept of self is the central focus. Miyamoto, Crowell and Katcher (1956) found self-concept to be a fairly stable phenomenon which should not be expected to change greatly due to contact with any single academic course. Sullivan (1947) suggested personality is a self-system.

Newburger and Daniel (1985) found global self-concept resistant to change but that area-specific communication self-concept may be susceptible to change

through public speaking practise. This study is important in that it points out the need for research into the stability of the component parts of self-concepts multidimensional structure.

Byrne and Shavelson (1986) cite Shavelson, Hubner and Stanton (1976) as positing self-concept to be a person's perceptions of self which are derived from interactions with significant others, self-attributions and overall experiences in the social environment.

Byrne and Shavelson (1986) reviewed the literature on the theory and structure of self-concept to determine that the facets of self-concept are distinct and these facets become more independent with age. Marsh and Shavelson (1985), Shavelson and Bolus (1982), Byrne (1986), and Marsh and O'Neill (1984) found support for the hypothesis that self-concepts are hierarchically organized, although this hierarchy is debated in the literature (Byrne, 1986; Fleming & Courtney, 1984; Shavelson & Bolus 1982).

Academic self-concept was found by Shavelson and Bolus (1982), and Byrne (1986) to be distinguishable from academic achievement.

Byrne and Shavelson (1986) discovered that virtually all validation work on self-concept has used the Self-Description Questionnaire, so the findings are instrument-specific. Item pairs rather than single items are used as a unit of analysis on this instrument so information on individual items is lost within the homogeneity of measurement.

Byrne and Shavelson (1986) tested three alternative models of self-concept to analyze the multidimensional, hierarchical structure of self-concept and set out to determine whether academic self-concept, subject-specific self-concepts and subject-specific achievement could be distinguished from each other. They found clear support for the multidimensionality of self-concept but the hierarchical structure was not found to be as clear as Shavelson and Bolus (1982). There was ample support for the conclusion that the hierarchical structure of self-concept weakens with increasing age.

Byrne and Shavelson (1986) determined that general self-concept, academic self-concept and subject-specific self-concepts are distinct. General self-concept correlated with academic self-concept. The subject-specific self-concepts of math and English were correlated with academic self-concept and general self-concept, but demonstrated much more correlation to academic self-concept. English self-concept and math self-concept were not correlated which confirms studies by Marsh and O'Neill (1984), Marsh, Parker and Smith (1983), Marsh, Relich and Smith (1983), and Marsh and Shavelson (1985). So, although English and math self-concept both contribute to a single academic self-concept, their contributions are independent.

Byrne and Shavelson's (1986) findings suggest future research focusing on the non-academic aspects of self-concept needs attention. The sample consisting of 516 males and 475 females in the eleventh and twelfth grades lends credibility



to the confirmatory results found by Byrne and Shavelson (1986).

Potterbaum, Keith and Ehly (1986) investigated the causal relation between self-concept and academic achievement. Educators assume achievement is strongly related to self-concept according to Wylie (1979), but the causal relationship is not clearly defined.

Potterbaum, Keith and Ehly (1986) found that even well-done studies by Caslyn (1974), Shavelson and Bolus (1982), and Watenburg and Clifford (1964), had produced equivocal results. Hansford and Hattie (1982) had found only small positive correlations between self-concept and achievement. Maruyama, Rubin and Kingsbury (1981) posited that general self-concept and achievement was not causally related, while Shavelson and Bolus (1982) found the opposite conclusion. Caslyn (1974) found evidence for the hypothesis that academic achievement causes academic self-concept.

Potterbaum, Keith and Ehly's (1986) study found no significant causal relation between general self-concept and achievement. They hypothesized that future research should consider that one or more unknown variables may have causal influence, such as socioeconomic status and ability. They also hypothesized self-concept and achievement may cause each other in a reciprocal or cyclical manner.

Potterbaum, Keith and Ehly (1986) employed a large sample of 58,728 adolescents drawn from 1,015 high schools across the United States, which gives

credibility to the suggestion that teachers should not focus on general self-concept as a means of improving academic achievement. The results of this study points to the need for more research into the specific self-concepts and how they influence specific corresponding achievements.

### **Locus of Control**

King (1983) determined that self-determination or a sense of agency is a strong motivational force in learning. Thomas (1980) agreed that students gain a feeling of personal empowerment when they control choices regarding their own learning. Cooper (1971), Freire (1973), Illich (1978), and Toffler (1980) advocated a need to preserve a strong sense of personal agency in individuals to help counteract the growing forces of external control in our society. Berhalter (1976) confirmed the value of child-centered learning environments versus teacher-centered learning environments.

King's (1983) study confirmed the importance of choice in enhancing art self-concept and art achievement. This study hypothesized that curriculum based on students having a more internal locus of control would allow individuals to feel more empowered as causal agents. Although the sample size of 208 students was adequate, the age group was Grade 6 specific and no gender differentiation was mentioned. Several of the instruments used for measurement were untested and author-devised. Art lends itself to free choice, and the novelty of free choice may

bias the results.

Maqsud (1983) substantiates the view that an internal locus of control promotes more accurate ability to predict one's own achievement level and also contributes to higher achievement levels. He also found that internality was positively associated with intelligence and self-esteem.

Maqsud's (1983) findings support Rotter's (1966) theory of social learning which posits that individual differences in perceptions of rewards was a matter of interpretation. Individuals perceiving events to be contingent upon their own behaviour are labelled internally controlled; individuals who attribute reinforcement to luck, chance, or fate would be labelled externally controlled. Rotter's (1966) theory hypothesized that a person's generalized expectancy is a personality construct which distributes individuals on a continuum from internal locus of control to external locus of control.

Crandall (1965), Chance (1965), Brown and Strickland (1972), and Bar-Tal (1980) confirmed Rotter's (1966) hypothesis when they found internals involved in more achievement-related activities at a consistently and significantly higher level than externals.

Rotter's (1966) investigations led him to believe that internal-external control was a prominent determinant of an individual's alertness to information which would be potentially helpful in guiding a person's future behaviour. Davis and Phares (1967) and Phares (1968) provided empirical support for Rotter's

(1966) study when they found that internals tend to acquire information more actively and tend to use this information more effectively than externals. Rotter (1966) also found that externals had a tendency to overestimate their academic achievement. This finding supports the conclusion that the predictions of externals are often distorted by attributions influenced by luck, chance and fate.

Maqsud (1983) determined from the literature that socioeconomic status was an important variable influencing the degree of internal-external control that individuals develop. Franklin (1963), Battle and Rotter (1963), Lefcourt and Ludwig (1965) confirmed a significant relationship between higher socio-economic status and internality.

Maqsud (1983) observed that secondary education was becoming more widely available to lower-class Nigerians and that a significant association was made by Nigerians between socioeconomic status and school achievement.

But the results of Maqsud's (1983) study did not reveal any significant association between socioeconomic backgrounds and internal-external locus of control for Nigerian adolescents. This result supports Gore and Rotter's (1963) study which reported no socioeconomic status differences in the internal-external scores of Black American college students.

Maqsud (1983) found significant positive relationships between self-esteem, the evaluative aspect of self-concept, and academic achievement. Rogers (1969) supports these results by suggesting that a learner's self-concept of how well he

can perform given tasks, influences his approach to achievement.

Maqsd (1983) presents a superficial cross-cultural study of 80 Nigerian adolescents that is limited in its generalizability because of the sample size. Maqsd (1983) provides support for theories on the relationship of internal-external locus of control and achievement. The relations between socioeconomic status and locus of control need further investigation as these relationships may be specific to each society and their particular class struggles.

### **Internal-External Frame of Reference**

Marsh, Smith and Barnes (1985) set out to clarify the relationships within an internal-external frame of reference.

Several studies brought out the need for more understanding of the comparison process. For example, Marsh and O'Neill (1984) investigated the hypothesis that since math and English achievement were strongly correlated, it would be reasonable to suspect that math self-concept and English self-concept would be substantially correlated. Shavelson, Hubner and Stanton's (1976) model was adapted to reflect the expectation that math and English self-concepts would form a general academic self-concept. They were surprised to find math self-concept and English self-concept were nearly uncorrelated in the Self-Description Questionnaire research.

Marsh, Smith and Barnes (1985), found support for the notion that

students compare their self-perceptions of their own ability in math and English with their perceptions of the abilities of other children to gain an external relativistic impression as one basis of measurement in the formation of their academic self-concept. They also found that students compare their self-perceptions of their ability in math and English, independent of the external comparison with others, and use this internal, relativistic impression as a second basis of measurement in the formation of their academic self-concept. Marsh and Parker (1984), and Marsh (1984) confirm this internal-external process in other self-concept research. These studies found that students of average ability attending low ability, low socioeconomic status schools where most students had lower achievement, had developed higher academic self-concepts.

This process of internal-external comparison places more value on self-perceptions based on comparisons rather than objective ability and achievement measures when forming self-concepts. Marsh, Smith and Barnes (1985) hypothesize that future research in physical self-concept and social self-concept formation will yield a similar internal-external frame of reference.

Marsh, Smith and Barnes (1985) present a study of 559 fifth-grade students that is biased by a sample that is predominantly male, 10 years old, and all participants were from a private Catholic Australian school. The specificity of the sample make generalizability hazardous.

Marsh, Parker and Barnes (1985) reviewed research by Marsh, Barnes,

Cairns and Tidman (1984). They found a striking linear decline in self-concept in Grade 2 to Grade 5 on nearly all scales of the Self-Description Questionnaire. One scale entitled Self-Concept of Relations With Parents which was the most positive scale in Grade 2, showed no decline across all grade levels. Marsh, Barnes, Cairns and Tidman (1984) proposed a social comparison process occurs whereby the added experience and reality testing gained by attending school causes the high reported self-concepts of very young children to drop, but has no effect on the parents' scale where children have no external basis of comparison. This interpretation suggests that preadolescent children still feel confident about their relationship with their parents even after they find they are not as good as they once thought in other areas. This study predicted that extremely high self-concepts on the parents' scale were unlikely to be maintained through adolescent years.

Marsh, Parker and Barnes (1985) found English self-concept and math self-concept were nearly uncorrelated while verbal achievement and math achievement were highly correlated. They proposed this extreme separation was due to an internal comparison process which involves a comparison of one's own relative academic abilities to the abilities of other students.

A student with below average performance in both English and math achievement may be better at math than English. The external comparison would yield a below average self-concept in math but using an internal comparison math

would be considered higher than average. Depending on how an individual weighed these comparisons, a student may have an average or above average math self-concept. The external comparison process will lead to a positive correlation between English and math self-concept; however, the internal comparison process will lead to a negative correlation between English and math self-concept. The joint operation of both internal-external comparisons will produce uncorrelated self-concepts which are consistent with empirical findings. Marsh, Parker and Barnes (1985) suggest the ability of this model to explain these paradoxical results is appealing but needs further investigation.

Marsh (1984), and Marsh and Parker (1984) describe the comparison process as it relates to academic achievement and academic self-concept. According to their model, students appraise their own academic ability, compare this with abilities of other children within their frame of reference, and use this relativistic impression of their ability as one basis for forming their academic self-concept. This theory suggests a child's self-concept will change according to the general ability of the school they attend.

In this study the frame of reference school, other students in their stream and the additional effect of being labelled according to stream, made application of this model suspect.

Marsh, Parker and Barnes (1985) studied the results of 901 students aged 11 to 18. They postulated that an internal comparison process occurs that



involves comparison of one's own abilities and also a comparison of one's own abilities to other person's abilities. The huge sample size was excellent, but labelling the ability streams within the school may have contaminated many of the participants' self-descriptions.

Newburger and Daniel (1985) hypothesized that the highly social interactive atmosphere of speech courses would be well-suited to giving feedback that would stimulate student self-concept modifications about communication apprehension.

Newburger and Daniel (1985) reviewed some important historical literature that has relevance to the internal-external frame of referencing that affects the formation of self-concepts. Gilkinson and Knower (1941) stressed the causative importance of emotional attitudes in determining a speaker's effectiveness. Their research suggested that a speaker's rapport with an audience determines effectiveness, and rapport was directly related to a speaker's attitude toward his audience and himself. External body language and oral communication were regarded as indicative of degrees of internal emotional organization.

Sullivan (1947) described self-concept as a construct of personality developing out of one's perception of the reactions of others to oneself, consisting of reflected appraisals learned in contact with other significant people. Rogers (1951) postulated behaviours to be a function of a person's self-perceptions striving to achieve an internal frame of reference, based on

perceptions of an external frame of reference.

Purkey (1970) found that self-concept develops and changes as a process of experience. Furr (1970) suggested that perception of an environment in a new perspective tends to alter self-concept.

Newburger and Daniel (1985) discovered that group discussion and feedback from fellow undergraduates in a speech communication course was capable of reducing communication apprehension while video-viewing of oneself as feedback was not useful in enhancing fears about speech-making.

Newburger and Daniel (1985) introduce the notion of fear and emotional states into the growth and development of student self-concepts. They were not able to shed much light on the relationships, except to confirm the need for person-to-person communication feedback. Future research needs to address the affects of stress and fear on self-concept formation.

### **Gender**

Marsh, Smith and Barnes (1985) hypothesized that the socialization processes which are different for boys and girls would produce differences in self-concept which, in turn, would produce differences in achievement.

Dusek and Flaherty (1981) were cited by Marsh, Smith and Barnes (1985) because their longitudinal study of adolescent self-concepts determined that differences in specific areas of self-concept were consistent with sex stereotypes.

Boys had higher self-concept ratings in achievement, leadership and lower self-concept ratings in congeniality and sociability. Marsh (1984) and Marsh, Parker and Barnes (1985) found sex differences favouring boys' self-concepts in physical ability and favouring girls' self-concepts in reading in both preadolescents and adolescents. Wylie (1979) concluded that these differences in overall self-concept were lost when specific self-concept scores were summed to obtain total self-concept scores. Fleming and Courtney (1984) found significantly higher self-concept results for boys in math and physical ability when he investigated university students.

Meece, Parsons, Kaczala, Goff and Futterman (1982) examined math self-concept and achievement differences between boys and girls to determine that the differences were not very large in elementary school years. He found there was a significantly lower level of achievement and self-concept in math for girls in junior and senior high school.

Meece et al. (1982) found that math self-concept declines for both boys and girls throughout high school but this decline begins sooner and is larger for girls than boys. Marsh (1984) confirmed this research by finding no sex differences in math self-concept for preadolescents but significant differences favouring boys in high school.

Sherman (1980) found that this pattern of sex differences occurs despite the finding that during elementary school and junior high school years girls

generally perform as well as boys on standardized tests for mathematics. Meece et al. (1982) asserts that the decline in math self-concept precedes the decline in math achievement and that socialization processes affecting math self-concept are one cause of the decline in achievement. These findings suggest that sex differences in math achievement are due to stereotyped socialization patterns that produce traditional sex roles, attitudes and beliefs.

Marsh, Smith and Barnes (1985) interpreted these investigations into the literature to point toward the notion that socialization produces self-concept differences and this produces achievement differences in boys and girls. Relich (1983) confirms this hypothesis further when sixth-grade girls had significantly lower math self-concept than boys, even though these girls had significantly higher levels of math achievement.

Marsh, Smith and Barnes (1985) reviewed the literature on the effects of sex-role stereotyping on self-concept and achievement. Since their study involved 422 boys and 137 girls, the predominantly male sample biases their results which they assert confirms the findings in the literature review. Further research is needed to clarify the reasons why the socialization processes leads boys and girls to develop differences in specific self-concept, and if the relationship of self-concept to achievement is causal in a certain direction. Marsh, Smith and Barnes (1985) reviewed the literature on internal-external frame of reference in this study. How the internal-external referencing and comparisons work in

relation to gender needs further investigation.

Robison-Awana, Kehle and Jenson (1986) suggest that sex role expectations in society are important influences on the development of a child's beliefs and prejudices.

Robison-Awana, Kehle and Jenson (1986) cite many authors in their literature review who have confirmed sex role differences in self-concept formation.

Kuhn, Nash and Brucken (1978) found that as young as 2 years old, children begin to acquire knowledge and identification with sex role stereotypes, and Prather (1971) found evidence to suggest children increase their stereotypical beliefs with age. Bem (1981) proposed that a person's self-concept assimilates sex-typing formation according to gender schema theory to form a stable personality construct.

Many researchers, including Rosenkrantz, Vogel, Bee, I. K. Broverman and D. M. Broverman (1968) found that male traits are perceived by both sexes to be more socially desirable than those typically associated with the female sex. Hanes, Prawat and Grissom (1979) suggest that adolescent girls come to realize that their sex role is relatively inferior in prestige and status, and so a corresponding decrease in her own evaluation of self may result.

Peck (1975) suggested that healthy adjustment in adolescence is characterized by the adoption of stereotypic masculine or feminine sex role

orientation. Lerner, Sorell and Brackney (1981) suggested that an individual's self-definition should be compatible with the demands society places on the individual, but the past definitions often linger on even when no longer applicable. They suggested that high self-esteem in the current Western society requires both masculinity and femininity with a greater emphasis on masculinity for both sexes.

Bartunek (1981) found that men generally attribute their successes to internal causes or ability; however, women attribute their successes to external causes such as luck. Johnson (1981) found that internal attributions for success are associated with higher levels of self-esteem.

Robison-Awana, Kehle and Jenson's (1986) study confirms that boys and girls both believe that boys had higher self-esteem. The only exception to this result occurred in high-achieving girls. The authors explain that boys and girls by adolescence use sex-role stereotyping gained through the socialization process as a source of information in developing their self-concepts. Self-esteem increased commensurately with increased academic achievement and seemed to explain why high-achieving girls did not fit the pattern. Robison-Awana, Kehle and Jenson's (1986) research was also in harmony with the concept of learned helplessness posited by Johnson (1981) which results from blaming failure on internal attributions and attributing external factors like luck for success. Because the sample of 140 seventh graders were stratified into three ability groups, the generalizability of such a small sample is suspect.

### **Internalizing Self-Perceptions of Ability**

Phillips (1984) investigated the sources of knowledge that highly competent students use to develop low perceptions of their abilities. Phillips' (1984) comprehensive literature review led him to the conclusion that highly competent children do not automatically display effective patterns of achievement striving.

Crandall (1969), Dweck, Goetz and Strauss (1980), Licht and Dweck (1982), and Stipek and Hoffman (1980) confirmed the relative independence of actual ability in the motivational determination of achievement. Bandura (1977), Covington (1984), Nicholls (1982), and Weiner (1982) developed a cognitive-developmental model of achievement that suggests that a child's perception of reality, rather than actual reality, is the more powerful predictor of achievement motivation and behaviour.

The empirical literature lent ample support for the theory behind the perceived competence construct. Harter (1983), Lynch (1981), and Markus and Nurius (1984) found that a child's self-perceptions of competence are critical to the regulation of achievement behaviour. Harter (1978) found that positive perceptions of competence are essential for the maintenance of achievement motivation.

As a result of the empirical literature, Phillips (1984) focused his research on the subjective perceptions children develop concerning their own cognitive competence. Phillips (1984) found that perceptions of incompetence, in particular,

had been found to impair achievement (Dweck and Goetz, 1978; Ickes & Layden, 1978; Nicholls, 1979). Among children who have acquired self-perceptions of incompetence, a particularly perplexing group was comprised of children for whom these perceptions were inaccurate (Weisz, 1983).

Harter (1983), Dweck (1975), and Weisz (1981) found that bright children who underestimate their abilities strive for less challenging accomplishments than their actual talents would predict.

Phillips (1984) analyzed this cumulative evidence which suggests that self-perceptions of competence may mediate the relations between actual ability and achievement such that, when perceptions diverge from objective indicators like standardized test results, a distorted relation between motivation and ability may emerge.

Phillips (1984) studied learned helplessness (Dweck & Licht, 1980; Garber & Seligman, 1980), and achievement attribution (Nicholls, 1975; Parsons, 1981; Weiner, 1982), literatures to identify a select group of children who display rapid loss of persistence in the face of failure feedback; a propensity to interpret mistakes as indicative of insufficient ability; and a tendency to expect future failure. This coherent pattern was not mediated by actual levels of competence, nor was it easily remedied by administering steady doses of success.

Harter (1983) isolated a pattern of control beliefs, characterized by greater internality for failure than for success and a propensity to ascribe failures to



internal rather than to external causes.

Phillips (1984) confirmed that subjective appraisals of low competence interferes with persistence and positive achievement expectancies. Phillips' (1984) research also uncovered that students with self-perceptions of incompetence perceived their teachers to expect less of them and eventually they internalized these expectations. Measurement of teacher expectations matched student perceptions and the teachers described these students as lacking in persistence.

Phillips (1984) confirmed research by Ickes and Layden (1978), suggesting that ability was seen as a more stable reason for success, whereas effort was considered less dependable. Females, in particular, were found to accept more readily that failure was indicative of low ability.

Although the research sample of 117 fifth graders is relatively low, the exhaustive use of measurement instruments completed by teachers and students has produced some very valid information that could spearhead further research into how self-perceptions form. The socialization process by gender and the internalization of teacher expectations are critical information sources that need to be analyzed. The relative importance of ability and effort seems to play a crucial role in the development of a more internal locus of control and the development of other criteria for self-evaluation.

Phillips' (1984) study raises interesting questions; for example: the reasons

why some students pay more selective attention to failure; the social comparison processes that influence self-perceptions of competence; and how parent and teacher feedback and expectations influence self-concept of ability and effort. These questions need further investigation, as well as speculations that children with low self-perceptions of competence avoid challenging endeavours, children who lack confidence deflate their achievement standards to minimize subjective feelings of failure, and teachers base their expectations on a child's self-perception of competence versus objective evidence of a child's abilities.

### **Developmental Formation of Ability Attributions**

Little's (1985) research was designed to determine the attributions school children use to explain academic success and failure; how frequently they use these attributions, and do the types of attributions used by children to explain academic success and failure vary developmentally.

Little (1985) based his research on Weiner's (1982) attribution model which used the variables of ability, effort, task difficulty and luck organized along the dimensions of locus, stability and control. Little (1985) found that ability attributions referred to observable achievement outcomes that referred to specific or general competence. Behaviour attributions, when used to explain achievement, was expressed as a function of knowing how to behave as a consequence of the social conformity a person was able to maintain. Attributions

of luck related to achievement in difficult tasks was unimportant in Little's (1985) study. The meaning of luck was queried and considerable variation in meaning was discovered. Younger children tended to define luck in evaluative terms; older students were more likely to define luck in its chance sense.

Little (1985) found that the preoccupation of young children with describing an event in terms of another observable event was consistent with the developmental characteristics of children. Inhelder and Piaget (1958), espousing cognitive theory, maintain that a child's cognitions at the preoperational stage are dependent on the observable, the concrete and the immediate. Piaget (1932), Weiner and Peter (1973), and Leichmann (1976) found that young children evaluate moral issues and achievement based on observable outcomes. Livesley and Bromley (1973) found that when young children describe other people, they focus on the concrete, rarely moving to the abstract and psychological. Wood (1978) found older children move beyond description of observables to attributions to personality type.

Accordingly, Little (1985) discovered that performance ability attributions represent the first step in a search for enduring aspects of achievement. Achievement must be grasped and described as a specific fact, then a child may move on to generalizations about a person. This interpretation by Little (1985) is consistent with Piaget's (1932) preoperational to concrete operational to formal operational stages of cognitive development.

Little (1985) found that the belief that success and failure are due to effort and lack of effort is well-established by 11 years of age. Little (1985) found that children after 8 years of age make increasing use of interpersonal comparisons, also confirmed by Shantz (1975).

Little's (1985) study of various age groups found support for the notion that student attributions for academic success and failure varied developmentally with age, and these attributions involved a complex combination of objective and subjective reality. His research discovered that young students focused almost entirely on observable concrete outcomes, whereas older students began to attribute success levels to psychological properties within a person including effort, ability and behaviour. Little's (1985) research suggests that information sources for self-evaluation and self-perception vary developmentally with age. The reader should be cautioned that the sample size of 149 students is inadequate for generalizing, especially when the age range was 5 years to 14 years of age. Little (1985) collected his data through six personal interview questions, so his interpretation of the information may lend itself to further bias.

Horn and Hasbrook (1987) determined from the developmental psychology literature that there is a developmental progression in the criteria and information sources children use to evaluate their performances.

Harter (1981a), and Roberts (1984) explored motivational themes to discover that a child's perceived ability was a significant predictor of the child's

behaviour in achievement contexts. A child's persistence, motivation and anxiety is significantly affected by their self-judgements concerning personal competency.

Horn and Hasbrook (1987) found there was little research into how children form self-perceptions of competence, and what information they use to judge the quality of their performance.

Frieze, Francis, and Hanusa (1983), Minton (1979), and Scanlan (1982) suggested there were many sources of information a child might use in achievement contexts to judge his competence, including evaluative feedback from significant others, the performance comparison to others and internal standards.

Dweck and Bush (1976), Frieze, Francis, and Hanusa (1983), and Stipek and Tannatt (1984) found that although all of the sources of information may be available, there appears to be considerable variation in the particular sources chosen by children.

Pascuzzi (1981), Spear and Armstrong (1978), and Stipek and Tannatt (1984) found preschoolers, and Kindergarten children base their competence judgements on simple task mastery and feedback by significant adults.

Morris and Nemcek (1982), Pascuzzi (1981), Ruble, Boggiano, Feldman and Loebel (1980), and Stipek and Tannatt (1984) found that around ages 5 to 7, children show increasing tendency to evaluate their own competence against the performance of their peers.

Cook and Stingle (1974), Horn and Hasbrook (1987), and Kagan and

Madsen (1972) found the social-peer comparison orientation becomes considerably more important over the elementary school years to reach its highest intensity during late childhood and early adolescence.

Frieze and Bar-Tal (1980), and Frieze, Francis and Hanusa (1983) found that beginning sometime in adolescence, children begin to put the peer comparison process into a larger context and begin to integrate the information from a variety of sources while evaluating their achievement competencies.

Harter (1981b) suggests that during late childhood, cognitive maturation results in the internalization of achievement standards which they use in subsequent performance situations to make independent judgements of their competencies.

Harter (1981b) suggests this age-related internalization process leads to a more independent motivational orientation in late childhood. Harter (1981a) found an increasing tendency from third to ninth grade to make internal judgements about their performance, becoming less dependent on external information sources like teachers, grades and report cards. Weis, Bredemeier and Shewchuk (1985) confirmed Harter's (1981a) results, but Harter (1981a) went further and suggested that some children never develop this internal structure and they continue to be dependent on external information to evaluate outcomes. Harter (1981a) theorized that the degree to which a child develops positive self-perceptions of their competence during young childhood years affects their

ability to develop internal standards later in life.

Empirical support for the notion that children with certain psychological characteristics tend to be dependent on external sources of information can be found in the sport psychology and developmental psychology literatures reviewed by Horn and Hasbrook (1987).

Smith, Smoll and Curtis (1979) found that male athletes aged 10 to 15 with low self-esteem were more dependent on the coaches' behaviours for self-evaluation.

Horn and Hasbrook (1987) interpreted these results to suggest that children with an external locus of control regarding their performance were particularly dependent upon external feedback. In contrast, they found that children with an internal locus of control and a more internal perception showed a greater tendency to depend on self-determined performance criteria when assessing their performance and less dependent on external information sources.

The research reported by Horn and Hasbrook (1987) has not taken into account that internality and externality may not be a function of chronological age, but more a function of a person's psychological profile as postulated by Jung (1956).

Children's susceptibility to specific information sources has been found to change as a function of developmental age. Horn and Hasbrook (1987) were interested in determining if a child's level of perceived competence and control

affects the self-evaluation process.

Based on Harter's (1981a) theory of development, Horn and Hasbrook (1987) anticipated that a child's self-assessed perception of competence and control would be more evident in later childhood with internality becoming more important.

Horn and Hasbrook (1987) found strong support for Harter's (1981a) developmental theory of motivation, which states that children who develop high self-perceptions of their competence, and a strong belief in their ability to control the outcomes, develop and internalize a set of achievement standards and goals with which they evaluate their performance. In contrast, children who develop external locus of control and lower estimates of their competence do not acquire internal standards of reference and continue into adolescence dependent on external sources of information to evaluate their competence.

Horn and Hasbrook (1987) found that the children 8 to 9 years old still relied on external sources of information, which supports Harter's (1981a) notion that internalization only occurs when children reach cognitive maturation.

Future research is needed to examine the process; children develop preferences for certain sources of information to assess their competency. Environmental and social factors provided by the family and school which provide performance feedback may affect the degree to which a child later in life might develop internalized standards.



Extensive competitive experience as a child may predispose a child to develop a primary dependency on peer comparison as a source of competence information.

Horn and Hasbrook (1987) subscribe to Harter's (1981a) beliefs about developmental growth in the self-evaluation process. Harter's (1981a) theory postulates that children who learn to believe in their ability to control the outcome of their performance internalize achievement standards from which they evaluate their own performance outcomes; however, children with lower estimates of their competence continue to rely on external sources of information to evaluate their competence. The results of this study suggests that younger children had insufficient cognitive maturation, and they did not demonstrate internalization, whereas, 10- to 14-year-olds did develop internalization. There also seems to be a preference for information sources unique to each individual. This variability needs to be studied to determine why and how environment and social factors affect preference for different kinds of information. This was one of the few studies relating physical competence to self-concept. The sample size of 229 suggests a study with larger numbers in each age group would better validate these results.

### **Teacher Influence on the Motivations of Students**

Teachers are concerned with the discovery of new ways to motivate

students so they will respond actively and effectively in learning situations.

Incentive motivation involves the reinforcement of behaviour through the use of rewards that produce a feeling of satisfaction. Praise and higher gradings are traditional methods of incentive motivation. Anxiety produced by fear of failure may serve as an incentive for arousing increased effort to avoid failure.

Motivations that are intrinsic, such as cognitive motivations, achievement motives, and the need for self-enhancement, may provide incentives that teachers can influence externally through rewards and punishments.

Thistlewaite (1959) found external incentives such as praise and publicity were more effective when they were linked to intrinsic motivations such as the need for achievement.

### **Ability Self-Concepts and Teacher Feedback**

Pintrich and Blumenfeld (1985) reviewed the literature to clarify the factors influencing self-perception.

Nicholls (1983), Parsons (1983), Shavelson and Bolus (1982), and Weiner (1982) found that a child's self-perceptions of their ability and effort influenced their achievement behaviour. Nicholls (1979) found that not until later in elementary school were students able to distinguish between ability and effort, and the differential contribution these factors have on performance, and at young ages ability and effort self-perceptions were often confused. Eccles, Midgley and

Adler (1984) confirmed that students below Grade 3 are less accurate in their self-assessments of ability and effort.

### **Teacher Feedback**

Pintrich and Blumenfeld (1985) reviewed the literature to clarify the relationship teacher feedback had to self-perceptions.

Brophy (1981) found that teacher feedback was an important source of information that could heighten or depress self-perceptions. Blumenfeld, Pintrich, Meece and Wessels (1982) found that relations between feedback and self-perception differ because teacher feedback changes differentially; in that it is often ambiguous and not contingent on performance.

Parsons, Kaczala and Meece (1982) studied fifth- to ninth-grade students to find that praise and criticism for work were positively related to self-concept. He posited that work praise operates as a reinforcer, but work criticism may not have detrimental effects because it signifies high teacher expectations for achievement. Further studies need to investigate whether this pattern is subject-specific and whether this pattern holds true for all age groups.

Stipek and Tannatt (1984) determined that children use information about conduct in their assessments of ability and effort. Attribution studies by Dweck, Davidson, Nelson and Enna (1978), Ruble (1983), and Weiner (1982) point to the importance of classroom experience, teacher feedback and feedback obtained by

way of comparison with peers.

Brophy (1983) investigated further to find that teacher behaviours such as providing assistance, monitoring work, and showing personal interest are influential feedback on student self-perceptions. Hoge and Luce (1979) found that student behaviour such as time on task, misbehaviour, seeking help and receiving help were related to actual achievement. Stipek and Hoffman (1980) determined that children's past achievement influences their ability perceptions and expectations for future success.

Pintrich and Blumenfeld (1985) reviewed the literature to clarify how feedback affects self-perceptions in relation to age and gender.

Minton (1979) studied the developmental differences in children's ability to evaluate information to find that younger children seem to be affected by praise and criticism in a simple linear fashion; the effect of feedback for older children and adults seemed to vary depending on the amount of praise or criticism, the outcome, the task difficulty and teacher expectations.

Dweck, Davidson, Nelson and Enna (1978), and Parsons (1981) found that boys and girls may be differentially sensitive to teacher feedback. Girls' ability self-perceptions were more negatively influenced by negative feedback. Boys' math self-concept positively related to both praise and criticism; girls' math self-concept negatively related to criticism.

Pintrich and Blumenfeld (1985) investigated the literature to determine the

differential sources of information that students use when comparing their self-perceptions.

Blumenfeld, Hamilton, Bossert, Wessels and Meece (1983) found that teacher praise and criticism, more than 50 percent of the time focuses on procedural adherence or conduct. Blumenfeld et al. (1983), Minton (1979), and Stipek and Tannatt (1984) found that teachers often use a student's conduct to explain academic success and failure. A child's criteria for judging their own ability and effort often reflects this teacher emphasis.

Brophy (1983), and Brophy and Good (1974) found that teachers recognize and provide more opportunities to respond for higher achievers; teachers tend to monitor the work and behaviour of low achievers more often. Brattesani, Weinstein and Marshall (1984); and Weinstein, Marshall, Brattesani and Middlestadt (1982) discovered that children are aware of these differences and that ability self-perceptions are more divergent in classrooms where teacher treatment is highly differentiated. Nelson-LeGall (1983) determined that obtaining assistance can facilitate performance but it can also threaten self-esteem if the task is one a student is supposed to be able to handle easily.

Pintrich and Blumenfeld (1985) confirmed that work praise is usually given as an affirmation of correctness, while children interpret this feedback as a confirmation of their ability. They found work criticism usually refers to carelessness and lack of effort, so criticism affects effort self-perceptions but does

not have detrimental effects on ability. They found that teacher work praise positively contributes to ability and effort self-perceptions regardless of other differential factors.

These findings suggest the importance of assigning tasks matched to skill levels so as to provide frequent opportunities for positive feedback.

Teacher feedback behaviours like giving help, closer monitoring and showing interest discussed by Brophy (1983) and Weinstein (1983) were not found to correlate with students' self-perceptions. More research is needed in this area to clarify the relationships.

Pintrich and Blumenfeld (1985) found poor relations between peer feedback and self-perceptions of ability. The small sample size of 85 Grade 2 and Grade 6 students was too specific to measure peer feedback relationships.

Because teacher feedback is most strongly associated with self-perceptions, then classroom organizational structures involving, for example, ability groupings will affect the frequency and nature of feedback. The amount of public exposure of feedback patterns will also affect the comparability of performance. These relationships need further investigation.

Pintrich and Blumenfeld (1985) present a thorough review of the literature on the development of self-perceptions but the generalizability of their own research seems limited in value based on a small specific sample.

### **Social and Affiliative Motives**

Bandura and Huston (1961) found that children desire acceptance, approval and recognition from parents, teachers and peers. They studied the effect of adult-child relationships on a child's subsequent learning. Students experiencing consistently warm and rewarding interactions with adults tended to imitate this model to a greater extent than did children who did not experience nurturing relationships.

Sears (1963) found that fifth- and sixth-grade children who scored high on creativity had usually received a great deal of personal attention and praise from teachers. Cogan (1958) found high school students produced a greater number of original poems and art work for teachers whom they viewed as more warm and considerate. Hartup (1958) found evidence that suggests intermittent nurturance is more effective than continual nurturance. In 4-year-olds, warm interactions followed by withdrawal of nurturance seemed to arouse children to take action toward restoring the warm relationship.

### **Achievement Motivations**

McClelland, Atkinson, Clark and Lowell (1953) found the need-for-achievement motive is learned by children as part of socialization. They found the strength of a child's achievement motives was dependent on the parents' expectations and values and on the strength of the child's identification

with their parents' and teachers' values.

Winterbottom (1958) and Atkinson (1958) found that children of relatively demanding mothers scored higher in their need for achievement. They found that demanding mothers tended to expect their children, before the age of 8 years, to know their way around the city, to try new things for themselves, to do well in competition, to make their own friends, and to be generally more self-reliant at a fairly early age.

### **Self-Enhancement Motivations**

Perkins (1969) describes self-enhancement motives as strivings for self-improvement, adequacy, competency, and the desire to learn and understand things that will permit more effective coping in their environment.

Self-enhancement motives combine with the notions of self-evaluation or self-esteem and self-perceptions to determine the levels of aspiration a person sets for themselves.

Sears (1940) studied aspiration levels and achievement levels to determine that successful people increase their aspiration level with each success and set more realistic goals; unsuccessful people, however, are rigid, unrealistic and often set their level of aspiration unrealistically high or set their level of aspiration unrealistically low. She found that success and failure strengthen and weaken a child's self-enhancement motives, and this was reflected in their aspirations and



expectations for achievement.

Mastire (1956) investigated the relationship between achievement motivation, discrepancies between self-concept and ideal self-concept, and estimates of level of aspiration. He found that the larger the gap between self-concept and ideal self-concept the more anxious an individual became concerning their achievement. He found that the fear of failure was often stronger than the motivation to achieve to the extent that anxiety influenced a person's level of aspiration.

### **Summary**

This literature review reveals a wide spectrum of research into the factors that influence the growth and development of human personalities. The insights provided by this review will be used in Chapter V to help understand the relationships between thinking patterns, motivation and stress.

### **CHAPTER THREE: METHODOLOGY**

In this chapter the research data procedures will be addressed under the following headings: methodology, sample and population, instrumentation, data collection and data processing.

#### **Methodology**

This research is non-experimental in design and it is not intended to prove cause and effect relationships between leadership, thinking styles, self-concept, motivation and stress management. This research had no control over the causes involved in these relationships. The focus and intention of this research was to explore and look for patterns and relationships that may lead to future experimental investigations that will focus on the cause and effect relationships between variables.

#### **Sample and Population**

The sample of seventy-five principals and vice-principals was drawn from seventy-five public elementary schools, and seventeen public secondary schools administered by the Hamilton Board of Education in the City of Hamilton, Ontario, Canada. Fifty-eight males and seventeen females responded to the survey. Table 1 illustrates the number of principals and vice-principals participating in the research by gender. Table 2 summarizes the age groupings of

**Table 1: Number of Principals and Vice-Principals by Gender.**

	Gender	
	Male	Female
Principals	39	6
Vice-Principals	19	11

**Table 2: Age Groupings of Principals and Vice-Principals by Gender.**

	Gender	
	Male	Female
30's	2	6
40's	32	8
50's	24	3

**Table 3: Relating Principals and Vice-Principals to the Number of Teachers.**

Number of Principals/Vice-Principals	Number of Teachers
32	11-29
14	30-39
11	40-59
18	60-94

**Table 4: Relating Principals and Vice-Principals to the Number of Students.**

Number of Principals/Vice-Principals	Number of Students
2	66-135
13	200-299
17	300-399
24	400-799
19	800-1450

principals and vice-principals by gender. Tables 3 and 4 present the range of responsibilities that the sample of principals and vice-principals hold in relation to the number of teachers and students they are responsible for.

### **Instrumentation**

An explanatory letter was sent out to the participants. (See Appendix A). The Life Styles Inventory questionnaire and survey was used in this research to focus on gathering data concerning the thinking styles, self-concepts and motivations of principals and vice-principals. Additional data was gathered on the back of the Life Styles Inventory that focused on personal data, life events, and the physical effects of stress. (See Appendix D). The writer augmented this aspect of the Life Styles Inventory with a more in-depth questionnaire inquiring into personal data, life events, life satisfaction, the physical effects of stress, substance use and the amount of aerobic exercise performed weekly. (See Appendix B and C).

### **Life Styles Inventory**

#### **Introduction**

The Life Styles Inventory is a self-assessment instrument which measures twelve different thinking styles. It provides information about the motivations that have helped form a person's self-concepts. It has been used extensively as a

diagnostic tool to initiate change efforts for individuals and organizations attempting to develop more effective leadership, problem-solving, and stress management.

Cooke and Lafferty (1981) developed the Life Styles Inventory for the purpose of diagnosing and improving the effectiveness of human behaviour. They viewed thinking styles and self-concepts as a combination of values and beliefs that lead to the development of attitudes which in turn produce behaviours. By keying on the assumption that thinking styles and self-concepts translate into behaviours, Cooke and Lafferty (1981) posit that thinking patterns have consequences for job performance, interpersonal styles, leadership effectiveness, and an individual's ability to cope with stress, and these factors impact on the overall effectiveness of organizations.

### **Background on the Life Styles Inventory**

Thinking patterns were identified partly on the basis of Maslow's (1954) research on human needs and motivations. Maslow's (1954) distinction between lower-order and higher-order needs led to the identification of two general types of thinking styles that Cooke and Lafferty (1981) labelled security and satisfaction patterns.

Some of the life styles were expected to be positively related if they were powered by the same need, either security or satisfaction, while others were

expected to be negatively related if they were powered by opposite needs of security and satisfaction. In addition, the thinking styles were not hypothesized to be ordered in an hierarchical manner.

Cooke and Lafferty (1981) departed from Maslow's (1954) hierarchy of needs because they wanted to more adequately reflect the complex nature of human motivation. A large number of thinking styles were identified through a consideration of further research by McClelland (1951), Rogers (1961), Horney (1945), and Sullivan (1953).

This additional research led to the inclusion of further distinctions between task and people orientations, along with the security and satisfaction orientations drawn from Maslow's (1954) research on human needs. The task and people distinction is a recurring theme in research on leadership (Blake & Mouton, 1979).

Taken together, these two major distinctions generate four general areas of concern: people and satisfaction; people and security; task and satisfaction; and task and security.

Some of the life styles are expected to be positively interrelated, others are expected to be negatively interrelated and others are expected to be relatively independent of one another. The magnitude of the relationships is reflected in the position of each life style on the clock. Life styles that are expected to be highly interrelated are placed close to one another and those that are not expected to be

positively related are placed far apart.

The Life Styles Inventory measures twelve thinking patterns that are labelled: humanistic-helpful, affiliative, approval, conventional dependence, avoidance, oppositional, power, competition, perfectionistic, achievement and self-actualizing.

The security styles are labelled: conventional, dependence, oppositional, avoidance, and power; the satisfaction styles are labelled: humanistic-helpful, affiliative, perfectionistic, achievement, and self-actualizing. The two remaining styles labelled approval and competitive are motivated by both power- and higher-order needs of security and satisfaction.

Individuals are expected to be characterized by more than one life style. According to research by Cooke and Lafferty (1981) most people are characterized by a primary style and one or more backup styles.

### **Descriptions of the Twelve Thinking Styles**

According to Cooke and Lafferty (1981) the Humanistic-Helpful thinking style rests on the assumptions of Rogers (1961) that people are basically good and have a need to respond effectively in cooperative settings. This thinking style motivates people who enjoy helping, teaching and supporting other people in their efforts to grow. They found that leaders with this style tend to establish goals and make decisions on a participatory basis, motivating others with support, positive



feedback, and involvement.

The Affiliative style rests on the assumptions of Rogers (1961) also, but is powered by a stronger need for friendly relationships. Affiliative leaders are more oriented to the needs of the people in a group rather than task performance. The group's satisfaction is more the motivating force, rather than the group's performance.

Cooke and Lafferty (1981) describe the Approval thinking style based on Horney's (1950) research into motivations powered by a strong concern for being accepted by others. People with strong approval needs engage in behaviours that are overly agreeable especially in relationships with people in authority. Leaders with an approval orientation often set goals to please others, look the other way when problems arise, and make it a habit to do what is expected.

The Conventional style is tied to a feeling of security that comes from appearing normal to other people. Conforming to policies, rules, regulations and procedures maintains the status quo. As conventional leaders they reward conformity and set low-risk goals. They are highly resistant to change and stressful situations may force them to avoid any action that might make them look bad.

The Dependence style according to Cooke and Lafferty (1981) was developed from Horney's (1945) investigations into the need for physical and psychological security, as well as a concern for neither threatening or challenging other people. As a result dependent people do as they are told, look for direction

from others, and worry about the correctness of their behaviour. As leaders they appeal to others for help in getting what their superior wants done.

The Avoidance style focuses on the tendency to avoid risky or threatening situations. At the psychological level this style is powered by self-doubt, uncertainty and guilt over real or imagined mistakes. Bandura (1977) also relates the source of avoidance behaviours to low self-esteem, and low self-efficacy created by past experiences. An Avoidance style motivates a leader to avoid confronting problems and making decisions.

According to research by Cooke and Lafferty (1981) the Oppositional style reflects a tendency to be skeptical and critical. This style can lead to some constructive probing but often leads to managerial behaviours that show more concern for the leader's own personal needs for recognition than a need to work effectively with team members.

People who are oriented toward the Power style seek out positions of authority because they are motivated by a need for control. People resent this style because they feel controlled and manipulated. Anxiety and stress is typically reduced by feeling angry, attempting to take charge, and being tougher than other people. Power managers have little awareness, and hence concern, for the feelings of others, so they rely on their authority to control others through fear, punishment and possibly, reward.

The Competitive style reflects a strong need to win in order to gain a sense

of self-worth and recognition. Research by Tannenbaum (1968) suggests that managers strong in this style often select weak people who will not challenge their skill level, or make them look bad. By turning situations into a contest they manipulate things so they can win, thereby measuring their success in terms of their opponent's performance.

The Perfectionistic style reflects a strong motivation to gain satisfaction from achievements and to appear independent and confident. Some behaviours associated with this thinking style leads to excellence, but in excess it leads to the narrow-minded pursuit of tasks and standards that are unattainable over the long term. For this reason, perfectionistic managers often get lost in details, in an effort to avoid mistakes. The strong motivation to improve and achieve can be a strength, provided mistakes are treated as feedback and the establishment of reporting systems is not overdone.

According to Cooke and Lafferty (1981) the Achievement style is based on research by McClelland et al. (1953) which indicates a strong motivation to do things well along with a strong need to understand how and why things happen more effectively. Stressful situations are less disorienting to achievement-oriented individuals because of a highly developed sense of self-esteem and self-efficacy. They set their own standards and use obstacles and problems to recalibrate their goals and efforts so they are more in tune with reality. Achievement leaders encourage others to set realistically high goals that are in harmony with overall

organizational goals.

Cooke and Lafferty (1981) describe the Self-Actualizing thinking style based on Maslow's (1954) research into people reflecting a motivation toward the satisfaction that comes from experiencing life through a balanced concern for people and things. Managers with this orientation are described by Cooke and Lafferty (1981) as showing a well-balanced concern for task accomplishment and for individual development.

### **Construction of the Life Style Inventory**

Twenty items were chosen to measure each of the twelve life styles. The items used to measure the life styles are single words or short phrases no more than seven words in length. They reflect the various shades of meanings and intensity of meaning allocated to each thinking style. The words or phrases were designed to assess the styles in terms of either attitudes, behaviours, or reactions. The reaction assessments involve the perceived reactions of other people to the respondent or the respondent's reactions to others.

Respondents are asked to write the number "2" next to an item if it is "strongly like you most of the time," the number "1" if it is "like you quite often," or a "0" if it is "essentially unlike you." The self-scoring design of the instrument requires that a response be selected for each of the 240 life-style items.

### **Validity and Reliability of the Life Styles Inventory**

Although Lafferty (1971), and Lafferty and Morris (1978) researched selected aspects of the Life Styles Inventory, the most recent in-depth analysis of the reliability and validity of the Life Styles Inventory was conducted by Cooke and Lafferty (1981). They point out that over 150,000 individuals have completed the Life Styles Inventory, but for the purposes of their research the last 5,000 individuals who completed the inventory in 1979 were chosen. A sample of 1,000 respondents was selected from this total on a random basis. Most of the participants held managerial positions in industrial or commercial organizations. The large sample size chosen at random lends excellent credibility to the study and its results.

Cooke and Lafferty (1981) found that the reliabilities of the twelve style indices using Cronbach's (1951) alpha were all acceptable, with alpha coefficients ranging from 0.80 to 0.88. Cooke and Lafferty (1981) found that the Life Styles Inventory performed adequately on a test for convergent and discriminant validity, with over 90% of the items correlating more strongly with their own indices than with any of the other indices.

Cooke and Lafferty (1981) used an intercorrelation matrix and a cluster analysis to find evidence to support the construct validity of the Life Styles Inventory. They found that the magnitude of the positive correlations decreased progressively as the needs became more differentiated. Negative correlations were

found between life styles strongly linked to needs at opposite extremes of Maslow's (1954) hierarchy.

One difference found by Cooke and Lafferty (1981) was the empirical placement of the Achievement and Self-Actualizing styles between the Affiliative and Approval styles. This placement suggested that Achievement and Self-Actualizing styles may reflect a greater concern for people than initially expected.

Another difference was the reversed placement of the conventional and dependence styles. This reversal suggested that the Conventional style is more strongly linked to security needs than is the Dependence style.

Despite these differences, the results of the cluster analysis provided good support for the construct validity of the instrument.

Cooke and Lafferty (1981) found that a test for criterion-related validity showed that the life styles were significantly related to the number of medical problems reported by respondents. Medical problems were found to be related to stressful experiences and also related to security-oriented styles; specifically, Avoidance, and Oppositional styles. Satisfaction styles, and in particular, Self-Actualizing was found to be negatively related to the number of medical problems.

The relations between medical problems and life styles, however, did not match predicted patterns. The security-oriented Conventional style correlated

negatively, and the satisfaction-oriented Perfectionistic style correlated positively with medical problems. This suggests the Perfectionistic style is partly based on security needs and that the Conventional style is more satisfaction-oriented than expected.

With the exception of these two styles, the correlations between the Life Style Inventory indices and medical problems were in the predicted directions, although not always statistically significant. This result suggests that future research on stress and its relationships to thinking styles would be beneficial.

### **Personal Information and the Life Style Inventory**

In addition to the twelve thinking styles surveyed by the Life Styles Inventory, the back of the survey asks for information that can be processed and related to the thinking styles. The information on the Personal Data section was ignored because an additional survey questionnaire designed by the writer focused on this relevant information. The Life Events section is a modified version of the Holmes and Rahe (1967) scale used to determine the stressful life events that have occurred in the previous year. The Stress Effects section asks the respondent to identify the medical problems that they experience. And finally, the form requests the total number of days in hospital or missed from work in the previous year.

### **Life Data on the Two-Page Separate Questionnaire**

In addition to the personal information surveyed by the Life Styles Inventory, the writer designed a two-page separate questionnaire that would focus on some personal information that would be relevant specifically to this study and the particular managerial positions of principal and vice-principal. This form gathered personal information organized under the headings of Personal Data, Life Events, Life Satisfaction, Stress Effects, and Substance Use.

Although the Life Styles Inventory contained a section labelled Life Events, that listed many specific life situations that would cause stress in a person's life, the writer felt this section could be augmented on the additional survey so the respondents could indicate their perception of how stressed they felt they were in the previous year, in a more generalized way.

The Life Satisfaction category on the additional questionnaire was included to gain a sense of how satisfied each individual felt because the Life Styles Inventory is based on the theory that satisfaction-oriented individuals demonstrate more effective behaviours and have fewer stress and medical symptoms.

The Stress Effects category on the additional questionnaire was included to simplify the symptoms of stress but also gain a sense of the frequency involved with the stress effects listed.

The Substance Use category was included so that the frequency of use of certain substances could be related to stress effects, medical problems, thinking



styles and life satisfaction. Of special note is the last question which also asks the amount of aerobic exercise performed weekly.

### **Data Collection**

The Life Styles Inventory, the Life Data a la Frame Questionnaire forms, and a cover letter were sent out to the 75 public elementary schools and 17 public secondary schools administered by the Hamilton Board of Education. One hundred twenty-five questionnaire packages were mailed out to the principals and vice-principals of these Hamilton schools. Seventy-five questionnaires were returned by administrators who took the time to fill in the forms, 22 questionnaires were returned by administrators who did not wish to participate, and 28 questionnaires were never recovered.

### **Data Processing**

The analysis of the data from the questionnaires included descriptive statistics,  $t$  tests and correlations.

## **CHAPTER FOUR: RESULTS**

### **Introduction**

In this chapter the results of the survey forms will be presented in a number of ways. First frequencies and descriptive statistics will be given for the sample population. Second, percentages and frequencies will be tabulated on the stress levels and stress effects reported by the sample population. Third, descriptive statistics for each thinking style will be reported for the entire group of principals and vice-principals. Fourth, descriptive statistics and  $t$ -values for the thinking styles will be reported by gender.

### **Profile of the Sample Population**

As noted in Chapter III the sample consisted of seventy-five principals and vice-principals, consisting of fifty-eight males and seventeen females. Table 1 in Chapter III reports the number of principals and vice-principals by gender. This table shows that the number of male principals exceeds the number of vice-principals, whereas this pattern is reversed for the female respondents. Table 2 in Chapter III suggests there may be a trend towards appointing more females to administrative roles at a younger age. Table 3 in Chapter III shows a range of responsibility from eleven teachers to ninety-four teachers. Specific note should be taken of the fact that the majority of principals and vice-principals administer schools with over thirty teachers. Table 4 in Chapter III relates the responsibility

of the principals and vice-principals to the number of students. Specific note should be taken of the fact that over half of the principals and vice-principals have responsibility for over 400 students.

Table 5 reports the number of years experience as a vice-principal. The years of experience ranged from a high of twenty-one years to a low of zero years experience. Of special note is the fact that thirty-five participants reported three years or more experience as vice-principals, whereas forty principals reported zero to two years of experience as vice-principals.

Table 6 reports the number of years experience as a principal. The years of experience ranged from a high of twenty-three years to a low of zero years experience. Twenty-nine participants had less than one year experience as principals. Twenty-five principals had over four years experience as a principal and twenty-one principals had one to four years experience.

In Table 7a, Life Events were measured on a seven-point scale that reported the participants' opinion of how stressed they felt about several life situations.

The first statement centred on the stress levels that the participants experienced on the job. On the low end of the seven-point scale four percent of the participants reported that they felt relaxed on the job, while on the high end of the scale, none of the participants felt extremely stressed. The bulk of the respondents reported stress levels on the job on the relaxed side of the scale.

**Table 5: Years as Vice-Principal.**

Number of Vice-Principals	Years
7	0
16	1
17	2
11	3
10	4
3	5
1	6
2	7
1	9
2	10
2	11
1	17
1	18
1	21

**Table 6: Years as Principal.**

Number of Principals	Years
29	0
7	1
5	2
3	3
6	4
1	5
2	6
3	8
2	9
4	10
1	11
1	12
1	13
1	15
2	16
2	17
2	18
1	19
1	21
1	23

**Table 7a: Life Events.**

Statement	Percentages								
		1	2	3	4	5	6	7	
1. On the job, how would you describe yourself:	relaxed	4	28	21	20	20	7	0	stressed
2. On the job my time orientation feels:	relaxed	4	7	13	13	21	36	5	tense
3. How open and truthful were you in completing the Life Styles Inventory?	open	1	56	28	5	4	3	3	guarded
4. How easy is it for you to change your behaviour, thinking and style if you desire to do so?	easy	3	35	25	7	17	13	0	difficult

The second statement focused on the time orientation on the job. On the low end of the seven-point scale four percent of the participants reported that they felt relaxed on the job, while on the high end of the scale five percent of the participants felt extremely tense. The bulk of the respondents reported a time orientation on the job that was on the tense side of the scale.

The third statement concentrated on how open and truthful the participants felt when completing the Life Styles Inventory on their thinking styles. On the low end of the seven-point scale, one percent of the participants felt extremely open, while on the high end of the scale three percent of participants felt extremely guarded. The bulk of the respondents reported on the open and truthful side of the scale.

The fourth statement focused on how the respondents felt about their ability to change their behaviour, thinking, and style if they desired so. On the low end of the seven-point scale three percent of the participants felt it was extremely easy to change, while none of the participants felt it was extremely difficult to change. The bulk of the respondents reported on the easy to change side of the scale.

In Table 7b, the intercorrelations among the 12 thinking styles (clocks) and the four life event statements are presented. The correlations ranged from 0.01 (Clock 6: Avoidance and Life 4) to 0.87 (Clock 8: Power and Life 1). In all, there

**Table 7b: Intercorrelations Among Thinking Styles and Life Events.**

Thinking Style	Life 1	Life 2	Life 3	Life 4
Clock 1 Humanistic Helpful	0.16	0.27	0.09	0.06
Clock 2 Affiliative	0.07	0.08	0.08	0.04
Clock 3 Approval	0.32	0.37	0.27	0.40
Clock 4 Conventional	0.52	0.20	0.01	0.60
Clock 5 Dependent	0.27	0.08	0.18	0.38
Clock 6 Avoidance	0.33	0.32	0.01	0.37
Clock 7 Oppositional	0.57	0.19	0.03	0.78**
Clock 8 Power	0.80**	0.42	0.55	0.77*
Clock 9 Competitive	0.87**	0.44	0.71*	0.67*
Clock 10 Perfectionistic	0.70*	0.45	0.56	0.46
Clock 11 Achievement	0.15	0.26	0.06	0.06
Clock 12 Self-Actualization	0.26	0.06	0.21	0.13

\* = 0.01

\*\* = 0.001



were only seven significant correlations. These significant correlations were highest for Clock 8: Power; Clock 9: Competitive; and Clock 10: Perfectionistic.

In Table 8, Life Satisfaction was measured on a four-point scale that asked participants' opinion of how satisfied they felt with several aspects of their lives.

The first statement asks how satisfied the participants were with their interpersonal relations with superiors. On the low end of the scale, three percent of the respondents reported that they were not satisfied, while fifty-one percent of the respondents reported that they were very satisfied. The bulk of the participants reported on the satisfied side of the scale.

The second statement refers to how satisfied the participants were with their ability to manage stress. On the low end of the scale, one percent of the participants reported that they were not satisfied, while on the high side of the scale twenty-three percent of the participants reported that they were very satisfied. The bulk of the participants reported on the satisfied side of the scale.

The third statement revealed how satisfied the participants were with their health. On the low end of the scale seven percent of the participants were not satisfied with their health, while on the high end of the scale thirty-two percent of the participants were satisfied. The bulk of the respondents were satisfied with their health.

The fourth statement focused on how satisfied the participants were with their general state of mind. On the low end of the scale, none of the participants

**Table 8: Life Satisfaction.**

How satisfied would you say you are with:	Percentages					
	not satisfied	1	2	3	4	very satisfied
1. Interpersonal relations with superiors		3	11	36	51	
2. With your ability to manage stress		1	15	61	23	
3. Your health		7	16	45	32	
4. General state of mind		0	5	60	34	
5. Interpersonal relations with co-workers		0	1	47	52	

Only one correlation was significant (0.05) among the 12 Clocks and the 5 Statements.

$r = 0.68^*$  Clock 12: Self-Actualization and Statement 4: General State of Mind

were not satisfied with their general state of mind, while thirty-four percent of the people were very satisfied. The bulk of the participants were satisfied with their general state of mind.

Anger and Frustration were reported by three percent as happening frequently, forty-eight percent as sometimes, and forty-nine percent as rarely.

Fatigue and Tiredness were described by fifteen percent as occurring frequently, sixty-one percent as sometimes, and twenty-four percent as rarely.

In Table 9, Stress Effects were reported on a three-point scale that measured the frequency of occurrence of specific health problems under the headings: rarely, sometimes, frequently.

Heart Problems were revealed by fifty-one percent to occur frequently, thirty-six percent sometimes, and only eleven percent rarely. This stress effect rated the highest frequency of all physical symptoms.

High Blood Pressure was described by seven percent as occurring frequently, eight percent as sometimes, and eighty-five percent as rarely.

Tension Headache was reported by seven percent as happening frequently, thirty-two percent as sometimes, and sixty-one percent as rarely.

Migraine Headache was reported never to occur frequently, while eight percent reported them sometimes, and nine-two percent rarely.

Back Pain was scored by four percent as occurring frequently, nineteen percent as sometimes, and seventy-six percent as rarely.

**Table 9: Stress Effects.**

Stress Effect	Percentages				
	Rarely	1	2	3	Frequently
1. Heart Problems		11	36	51	
2. High Blood Pressure		85	8	7	
3. Tension Headache		61	32	7	
4. Migraine Headache		92	8	0	
5. Back Pain		76	19	4	
6. Tense Jaw and Neck		81	17	1	
7. Colds		73	24	3	
8. Sleeplessness		73	21	5	
9. Cold Hands/Feet		84	15	1	
10. Anger/Frustration		49	48	3	
11. Fatigued/Tired		24	61	15	

Only four correlations were significant (0.05) among the 12 Clocks and the 11 Stress Effects.

$r = 0.64$  Clock 4: Conventional and Effect 8: Sleeplessness

$r = 0.66$  Clock 4: Conventional and Effect 10: Anger/Frustration

$r = 0.71$  Clock 7: Oppositional and Effect 10: Anger/Frustration

$r = 0.71$  Clock 7: Oppositional and Effect 11: Fatigue/Tired

Tense Jaw and Neck was described by one percent to be frequent, seventeen percent as sometimes, and eighty-one percent as rarely.

Colds were reported by three percent as happening frequently, twenty-four percent as sometimes, and seventy-three percent as rarely.

Sleeplessness was revealed by five percent as occurring frequently, twenty-one percent as sometimes, and seventy-three percent as rarely.

Cold Hands and Feet was reported by one percent as occurring frequently, fifteen percent as sometimes, and eighty-four percent as rarely.

The fifth statement focused on how satisfied the participants were with their interpersonal relations with co-workers. On the low end of the scale, none of the participants were not satisfied with their interpersonal relations while on the high side of the scale fifty-two percent of the participants reported they were very satisfied. The bulk of the respondents were satisfied with their interpersonal relations.

In Table 10, Substance Use and Life Style habits were reported on a four-point scale that measured the frequency of occurrence under the headings: frequently, sometimes, rarely, and never.

Cigarette Smoking was reported by five percent frequently, five percent sometimes, three percent rarely, and eighty-seven percent never.

Overeating was reported by seven percent to occur frequently, forty-one percent sometimes, thirty-five percent rarely, and seventeen percent never.

**Table 10: Substance Use and Lifestyles.**

Substance Use	Percentage					
	Never	1	2	3	4	Frequently
1. Cigarette Smoking	87	3	5	5		
2. Overeating	17	35	41	7		
3. Alcohol	19	36	36	9		
4. Aspirins	25	52	16	7		
5. Salt	24	33	25	17		
6. Sugar	17	40	27	16		
7. Breakfast	9	16	20	55		
8. Coffee/Tea	7	8	24	61		
9. Other Medications	37	45	8	9		
10. High Fat Content Meat/Foods	8	35	47	11		
11. Aerobic Exercise for a Minimum of 30 minutes 2 x weekly	28	23	16	33		

Only 3 correlations were significant (0.05) among the 12 Clocks and the 11 Statements.

$r = 0.63$  Clock 8: Power and Use 2: Overeating

$r = 0.68$  Clock 11: Achievement and Use 5: Salt

$r = -0.66$  Clock 12: Self-Actualization and Use 7: Breakfast

Alcohol was revealed by nine percent to be taken frequently, thirty-six percent sometimes, thirty-six percent rarely, and nineteen percent never.

Aspirins were described by seven percent to be taken frequently, sixteen percent as sometimes, fifty-two percent as rarely, and twenty-five percent as never.

Salt was reported by seventeen percent to be ingested frequently, twenty-five percent sometimes, thirty-three percent rarely, and twenty-four percent never.

Sugar was confirmed by sixteen percent to be used frequently, twenty-seven percent as sometimes, forty percent as rarely, and seventeen percent as never.

Breakfast was reported as a frequent habit by fifty-five percent, sometimes by twenty percent, rarely by sixteen percent, and never by nine percent.

Coffee and Tea was reported to be used frequently by sixty-one percent, sometimes by twenty-four percent, rarely by eight percent, and never by seven percent.

Other Medications were revealed as frequently used by nine percent, sometimes by eight percent, rarely by forty-five percent, and never by thirty-seven percent.

High Fat Content Meat and foods was reported as frequently ingested by eleven percent, sometimes by forty-seven percent, rarely by thirty-five percent, and never by eight percent.

Aerobic Exercise for a minimum of thirty minutes, two times weekly was

reported as a frequent occurrence by thirty-three percent, sometimes by sixteen percent, rarely by twenty-three percent, and never by twenty-eight percent.

In Table 11 percentages were tabulated for the Life Events reported by participants on the Life Styles Inventory.

Three percent of the participants preferred not to respond to this part of the questionnaire. One percent of the respondents experienced the death of a spouse in the previous year. Three percent experienced a divorce, one percent marital separation, zero percent served a jail term, twenty-one percent experienced a death of a family member or close friend, four percent experienced a loss of an intimate relationship, eleven percent experienced personal injury or illness, one percent experienced marriage, zero percent were fired at work, zero percent retired, one percent experienced a marital reconciliation, sixteen percent experienced a family injury or illness, one percent pregnancy, three percent gained a new family member, five percent had a change in financial state, zero percent had severe legal difficulties, nine percent changed to a different line of work, zero percent experienced a parental separation or divorce, zero percent experienced foreclosure of a mortgage or loan, twenty-five percent changed their responsibilities at work, twelve percent had a son or daughter leaving home, five percent had trouble with in-laws, thirteen percent had an outstanding personal achievement, one percent began or ended school, fifteen percent had a spouse begin or stop work, five percent assumed a heavy financial burden, one percent



**Table 11: Life Events on the Human Synergistic Form Life Styles Inventory.**

Life Event	Percentages	
	No	Yes
1. Prefer not to respond	97.0	3.0
2. Death of spouse	99.0	1.0
3. Divorce	97.0	3.0
4. Marital separation	99.0	1.0
5. Served jail term	100.0	0.0
6. Death of family member or close friend	79.0	21.0
7. Loss of intimate relationship	96.0	4.0
8. Personal injury or illness	89.0	11.0
9. Marriage	99.0	1.0
10. Fired at work	100.0	0.0
11. Retired	100.0	0.0
12. Marital reconciliation	99.0	1.0
13. Family injury or illness	84.0	16.0
14. Pregnancy	99.0	1.0
15. Gain a new family member	97.0	3.0
16. Change in financial state	95.0	5.0
17. Severe legal difficulties	100.0	0.0

**Table 11: (cont'd)**

Life Event	Percentages	
	No	Yes
18. Change to a different line of work	81.0	9.0
19. Parental separation or divorce	100.0	0.0
20. Foreclosure of mortgage or loan	100.0	0.0
21. Change in responsibilities at work	75.0	25.0
22. Son or daughter leaving home	88.0	12.0
23. Trouble with in-laws	95.0	5.0
24. Outstanding personal achievement	87.0	13.0
25. Begin or ended school	99.0	1.0
26. Spouse begins or stops work	85.0	15.0
27. Assume heavy financial burden	95.0	5.0
28. Trouble with boss	99.0	1.0
29. Change in residence	96.0	4.0
30. Trip abroad	83.0	17.0
31. Minor violations of the law	97.0	3.0

had trouble with their boss, four percent had a change in residence, seventeen had a trip abroad, and three percent had minor violations of the law.

In Table 12, percentages were tabulated for the Stress Effects assessed by a doctor reported by the participants on the Life Styles Inventory.

Five percent of the participants preferred not to respond to this part of the questionnaire. Four percent of the respondents had cancer, five percent ulcers, four percent colitis, four percent heart disease, zero percent arrhythmia, zero percent arteriosclerosis, twelve percent high blood pressure, zero percent anemia, four percent diabetes, one percent hypoglycemia, nine percent tension headaches, eight percent migraines, zero percent epilepsy, zero percent temporary paralysis, seven percent arthritis, three percent asthma, three percent recurring bronchitis, nine percent allergies, one percent dermatitis, one percent recurring herpes, and twenty-four percent overweight twenty pounds or more.

In Table 13 percentages were tabulated for the Stress Effects reported by principals and vice-principals on the Life Styles Inventory.

Four percent of participants preferred not to respond to this part of the questionnaire. One percent of the respondents reported chest pains, zero percent throat constriction, one percent shortness of breath, nineteen percent headaches, seventeen percent back pain, thirteen percent tense jaw and neck, zero percent cramps, three percent frequent colds, twelve percent sleeplessness, one percent

**Table 12: Stress Effects on the Human Synergistic Form Life Styles Inventory.**

Stress Effects Assessed by a Doctor	Percentage	
	No	Yes
1. Prefer not to respond	95.0	5.0
2. Cancer	96.0	4.0
3. Ulcer	95.0	5.0
4. Colitis	96.0	4.0
5. Heart disease	96.0	4.0
6. Arrhythmia	100.0	0.0
7. Arteriosclerosis	100.0	0.0
8. High blood pressure	88.0	12.0
9. Anemia	100.0	0.0
10. Diabetes	96.0	4.0
11. Hypoglycemia	99.0	1.0
12. Tension headaches	81.0	19.0
13. Migraine	92.0	8.0
14. Epilepsy	100.0	0.0
15. Temporary paralysis	100.0	0.0
16. Arthritis	93.0	7.0
17. Asthma	97.0	3.0
18. Recurring bronchitis	97.0	3.0
19. Allergies	91.0	9.0
20. Dermatitis	99.0	1.0
21. Recurring herpes	99.0	1.0
22. Overweight 20 lbs. or more	76.0	24.0

**Table 13: Stress Effects on the Human Synergistic Form Life Styles Inventory.**

Stress Effects reported as frequently by principals and vice-principals	Percentages	
	No	Yes
1. Prefer not to respond	96.0	4.0
2. Chest pains	99.0	1.0
3. Throat constriction	100.0	0.0
4. Shortness of breath	99.0	1.0
5. Headaches	81.0	19.0
6. Back pain	83.0	17.0
7. Tense neck and jaw	87.0	13.0
8. Cramps	100.0	0.0
9. Frequent colds	97.0	3.0
10. Sleeplessness	88.0	12.0
11. Loss of interest in sex	99.0	1.0
12. Tendency toward impotence/frigidity	97.0	3.0
13. Sexual difficulties	99.0	1.0
14. Rashes	100.0	0.0
15. Hives	100.0	0.0
16. Frequent cold sores	100.0	0.0
17. Excessive perspiration	97.0	3.0
18. Shaky hands	100.0	0.0
19. Dizziness	99.0	1.0
20. Blackouts (non-alcoholic)	100.0	0.0
21. Fainting	100.0	0.0
22. Colds hands and/or feet	89.0	11.0

**Table 13: (cont'd)**

Stress Effects reported as frequently by principals and vice-principals	Percentages	
	No	Yes
23. Grinding teeth	92.0	8.0
24. Biting nails	88.0	12.0
25. Stuttering	100.0	0.0
26. Fatigue	80.0	20.0
27. Irritability	93.0	7.0
28. Anger	96.0	4.0
29. Unclear thinking	100.0	0.0
30. Feeling fearful	99.0	1.0
31. Feeling nervous	97.0	3.0
32. Difficulty articulating thoughts	97.0	3.0
33. Forgetfulness	89.0	11.0
34. Depression	93.0	7.0
35. Constipation	100.0	0.0
36. Diarrhea	95.0	5.0
37. Indigestion	97.0	3.0
38. Heartburn	97.0	3.0
39. Frequent urination	100.0	0.0
40. Over-eating	89.0	21.0
41. Loss of appetite	99.0	1.0
42. Bloating	97.0	3.0
43. Excessive gas	97.0	3.0
44. Vomiting	100.0	0.0

loss of interest in sex, three percent a tendency toward impotence and frigidity, one percent sexual difficulties, zero percent rashes, zero percent hives, zero percent cold sores, three percent excessive perspiration, zero percent shaky hands, one percent dizziness, zero percent non-alcoholic blackouts, zero percent fainting, eleven percent cold hands and feet, eight percent grinding teeth, twelve percent biting nails, zero percent stuttering, twenty percent fatigue, seven percent irritability, four percent anger, zero percent unclear thinking, three percent difficulty articulating thoughts, eleven percent forgetfulness, seven percent depression, zero percent constipation, five percent diarrhea, three percent indigestion, three percent heartburn, zero percent frequent urination, twenty-one percent overeating, one percent loss of appetite, three percent bloating, three percent excessive gas, and zero percent vomiting.

Table 14 reveals the number of days spent in the hospital by principals and vice-principals. Sixty-nine of the seventy-five administrators spent no time in the hospital, one participant spent one day, another spent three days, another spent five days, one spent six days, and two participants spent twenty-two days.

Table 15 presents the number of days missed at work by principals and vice-principals. The number of days ranged from a high of twenty-two days by two participants, to a low of no days absent by forty-three participants. The majority of participants were absent zero to four days of work.

**Table 14: Days Spent in the Hospital by Principals/Vice-Principals.**

Number of Principals/Vice-Principals	Number of days in hospital
69	0
1	1
1	3
1	5
1	6
2	22

**Table 15: Days Missed at Work by Principals/Vice-Principals.**

Number of Principals/Vice-Principals	Number of days absent
43	0
7	1
9	2
5	3
3	4
1	5
1	8
3	10
1	20
2	22



Table 16 provides the descriptive statistics for each thinking style measured on the Life Styles Inventory for principals and vice-principals. The lowest possible score was zero and the highest possible score was forty.

For Clock 1 the mean was 33.60, the standard deviation was 4.75, the minimum score was 21.0, and the maximum score was 40.00 out of a total possible score of 40.00.

For Clock 2 the mean was 33.85, the standard deviation was 4.73, the minimum score was 18.00, and the maximum score was 40.00.

For Clock 3 the mean was 13.37, the standard deviation was 5.59, the minimum score was 4.0, and the maximum score was 30.00.

For Clock 4 the mean was 14.25, the standard deviation was 5.28, the minimum score was 3.0, and the maximum score was 27.00.

For Clock 5 the mean was 15.47, the standard deviation was 4.84, the minimum score was 5.0, and the maximum score was 28.00.

For Clock 6 the mean was 4.93, the standard deviation was 4.42, the minimum score was 0.0, and the maximum score was 18.00.

For Clock 7 the mean was 5.07, the standard deviation was 4.03, the minimum score was 0.0, and the maximum score was 17.00.

For Clock 8 the mean was 4.12, the standard deviation was 4.75, the minimum score was 0.0, and the maximum score was 24.00.

**Table 16: Descriptive Statistics for Each Thinking Style for Principals/Vice-Principals.**

Thinking Style	n	M	SD	Mode	Median	Minimum	Maximum
Clock 1 Humanistic Helpful	75	33.60	4.75	35.0	35.0	21.0	40.00
Clock 2 Affiliative	75	33.85	4.73	34.0	35.0	18.0	40.00
Clock 3 Approval	75	13.37	5.59	9.0	13.0	4.0	30.00
Clock 4 Conventional	75	14.25	5.28	9.0	14.0	3.0	27.00
Clock 5 Dependent	75	15.47	4.84	13.0	15.0	5.0	28.00
Clock 6 Avoidance	75	4.93	4.42	0.0	4.0	0.0	18.00
Clock 7 Oppositional	75	5.07	4.03	4.0	4.0	0.0	17.00
Clock 8 Power	75	4.12	4.75	1.0	2.0	0.0	24.00
Clock 9 Competitive	75	10.37	5.33	5.0	10.0	0.0	28.00
Clock 10 Perfectionistic	75	17.63	5.23	18.0	18.0	6.0	31.00
Clock 11 Achievement	75	31.65	4.94	37.0	32.0	17.0	39.00
Clock 12 Self-Actualization	75	30.37	4.80	30.0	30.0	19.0	40.00

For Clock 9 the mean was 10.37, the standard deviation was 5.33, the minimum score was 0.0, and the maximum score was 28.00.

For Clock 10 the mean was 17.63, the standard deviation was 5.23, the minimum score was 6.0, and the maximum score was 31.00.

For Clock 11 the mean was 31.65, the standard deviation was 4.94, the minimum score was 17.0, and the maximum score was 39.00.

For Clock 12 the mean was 30.37, the standard deviation was 4.80, the minimum score was 19.0, and the maximum score was 40.00.

### **Gender Differences**

One research question was concerned with examining gender differences and thinking styles. In Table 17 the means, standard deviations, and *t*-values were presented for each of the thinking styles by gender for principals and vice-principals.

There was a significant gender difference in the means scores for the thinking styles measured in Clock 1, Clock 6, Clock 7, and Clock 9. In all of these cases, males scored higher than females. On all other clocks there were no significant differences in thinking styles by gender.

**Table 17: Means, Standard Deviations, and t-Values for Thinking Styles by Gender.**

Thinking Style	Gender	n	MM	SD	t	P
Clock 1 Humanistic-Helpful	Female	17	34.18	4.60	0.58	> 0.05
	Male	58	33.43	4.82		
Clock 2 Affiliative	Female	17	33.53	4.11	-0.35	> 0.05
	Male	58	33.95	4.92		
Clock 3 Approval	Female	17	12.29	4.01	- 1.12	> 0.05
	Male	58	13.69	5.96		
Clock 4 Conventional	Female	17	12.29	4.59	- 1.92	0.032
	Male	58	14.83	5.36		
Clock 5 Dependent	Female	17	14.88	4.78	- 0.57	> 0.05
	Male	58	15.64	4.88		
Clock 6 Avoidance	Female	17	3.35	3.26	- 2.05	0.024
	Male	58	5.40	4.62		
Clock 7 Oppositional	Female	17	3.24	2.49	- 2.88	0.003
	Male	58	5.60	4.25		
Clock 8 Power	Female	17	3.18	3.78	- 1.08	> 0.05
	Male	58	4.40	4.99		
Clock 9 Competitive	Female	17	8.41	4.85	- 1.85	0.038
	Male	58	10.95	5.37		
Clock 10 Perfectionistic	Female	17	17.12	5.59	- 0.43	> 0.05
	Male	58	17.78	5.17		
Clock 11 Achievement	Female	17	32.35	5.21	0.64	> 0.05
	Male	58	31.45	4.89		
Clock 12 Self-Actualization	Female	17	30.41	4.94	0.04	> 0.05
	Male	58	30.36	4.80		

## **CHAPTER FIVE: CONCLUSIONS, DISCUSSIONS, AND LIMITATIONS**

### **Introduction**

In this chapter, the conclusions, discussions, and limitations of this study are presented. In the conclusion section each research question will be restated followed by the findings.

Next, the findings will be analyzed in depth, including discussions that will involve research by the authors of the Life Styles Inventory, research that covers the relationships between thinking styles and stress, as well as references to research presented in the literature review. Finally, the limitations of the study will be reviewed.

### **Introductory Perspective**

Perkins (1969) addresses the concept of motivation in terms of the reasons why people direct energy toward the many different aspects of their environment. Lafferty (1980) developed the Life Styles Inventory as an instrument that would provide insight into the motivational patterns that make up a person's thinking styles.

Maslow's (1954) research indicated that there were two basic motivations that powered the thoughts and behaviours of people: the satisfaction that comes from growth, and the satisfaction that comes from security. Lafferty (1980) studied the higher-level satisfaction-growth needs from Maslow's (1954) hierarchy to

develop four satisfaction-growth-oriented thinking styles.

Herzberg (1980) agrees with Lafferty (1980) and Maslow (1954) suggesting that the underlying dynamic of higher levels of satisfaction is the need for individual psychological growth. He found that this growth-need was powered by the intrinsic motivators unique to each individual, and that these higher levels of satisfaction were found to bring more meaning to a person's life than mere survival. As a consequence, Herzberg (1980) and Lafferty (1980) discovered that failure to select meaningful activities was strongly associated with increased levels of stress.

## **Conclusions**

Question 1: How satisfaction-oriented are the thinking styles of the principals and vice-principals?

## **Findings**

The Life Styles Inventory measures the satisfaction-orientation of principals and vice-principals on the thinking styles labelled Clock 1—humanistic-helpful; Clock 2—affiliative; Clock 11—achievement; and Clock 12—self-actualization.

Table 16 in Chapter IV illustrates that the minimum and maximum scores of all of the satisfaction-oriented thinking styles scored higher than all of the security-oriented thinking styles by a wide margin. The means, median,

and mode scores also support this finding strongly in favour of the satisfaction-oriented thinking styles.

Table 16 also shows a small preference for the satisfaction-people-oriented thinking styles labelled humanistic-helpful and affiliative, as opposed to the satisfaction-task-oriented thinking styles labelled achievement, and self-actualization.

## **Discussion**

Lafferty (1980) studied the results of the Life Styles Inventory, tabulated from thousands of individuals in management in an effort to determine common characteristics.

### **Humanistic-Helpful—Clock 1**

Lafferty (1980) found that managers motivated by humanistic-helpful thinking styles got a great deal of satisfaction from developing, helping, and teaching other people, using approaches that required individuals to think for themselves. They had a firm belief that if people are given the opportunity they will work to improve themselves.

Planning, goal-setting, and decision-making were typically done on a team basis, so that participation helped to train subordinates to become more responsible. Humanistic-helpful managers motivated people through support,

positive feedback, and involvement, encouraging independent thinking.

Lafferty (1980) discovered that humanistic-helpful thinking styles were developed in families that placed emphasis on feelings, and close personal relationships; or occasionally, they came from families where they experienced a lack of closeness, so a reverse response developed.

### Affiliative—Clock 2

Lafferty (1980) found that managers with strong affiliative motivations had a strong need for warm friendly relationships so as managers they were more people-oriented, organizing groups to ensure satisfying social interaction, rather than focusing on task accomplishment. They reacted to stressful, anxiety-producing situations by becoming very cooperative, caring, and accepting of other people.

Affiliative managers were found to be less effective in setting objectives and performance evaluations because they found it difficult to confront the problems and conflict associated with developing challenging standards of performance.

Lafferty (1980) discovered that as children these individuals often came from families where they received love, affection, and support without expectations, in terms of achievement or performance.



### Achievement—Clock 11

Lafferty (1980) found that managers motivated by achievement thinking styles had developed a strong preoccupation with developing their own unique individuality through personal goals, standards, and accomplishments. Their strong need to understand how and why things happen, complimented their strong need to do things well. They had developed a strong cause-effect thinking style that through past successful experiences recognized that obstacles could be overcome through objective planning and their own efforts.

Achievement managers were found to encourage subordinates to set their own goals at a moderate level of difficulty, and learn from their mistakes.

Lafferty (1980) discovered that achievement motivations were often nurtured by parents who gave their children ample opportunities to try new and different experiences without close supervision or protection from failure.

Lafferty (1980) suggests that achievement-oriented managers could become harsh task-masters under the stress of time constraints. They also appeared cold and uncaring to subordinates because they rely so strongly on rationality and logic. This resulted in some achievement managers becoming out of touch with their own feelings and the feelings of others. They also tend to associate with self-worth, and the worth of others based on achievements.

### Self-Actualization—Clock 12

Lafferty's (1980) research determined that managers motivated by self-actualization demonstrated the most satisfaction-growth-oriented model of human behaviour. He found that self-actualizers tried to understand the relationships between people, tasks, things and events as part of an overall balanced perspective. As a consequence, they demonstrated a more balanced concern for task accomplishment, and individual development, creating organizational relationships based on interdependence and consensus, without sacrificing high quality standards. Their more objective understanding developed from the motivation to see situations within the context of a more overall balanced perspective enhancing their ability to lead and communicate with their subordinates.

Lafferty (1980) found that self-actualizing managers were constantly monitoring progress so that responses to situations could be adjusted more readily, as an organization, and as individuals.

Lafferty (1980) determined that as children, self-actualizers were often valued for their uniqueness, and fear was not used to motivate. Each experience was portrayed as an opportunity to learn. Parents conveyed this thinking style to their children by example, so that as children they learned from their mistakes without the usual loss of self-esteem produced by fear-based security-oriented thinking styles.

### Selection of Principals and Vice-Principals

This research suggests that people who aspire to positions of added responsibility, such as principals and vice-principals probably pass through a social environment, and a selection procedure that chooses teachers with a predominantly satisfaction-growth-orientation, and that this orientation is further enhanced within the administrative culture of education.

Behaviour theories researched by Bandura and Walters (1963) on social learning theory supports this notion when they concluded that social environments create positive and negative consequences which shape socially acceptable forms of behaviour.

### Family Background

A common theme throughout the research on self-concept is the importance of the family environment in the development of a person's motivational style and thinking patterns. The extremely high scores for the four satisfaction-growth styles suggests that principals and vice-principals came from families where they learned these styles through the examples and expectations set within their family environment.

Lafferty (1980) discovered that achievement-oriented families encouraged children to try many experiences without protection from failure. Self-actualizing families emphasized a child's uniqueness, and they

demonstrated a balanced perspective toward achievement and human relationships. Humanistic-helpful families stressed close, encouraging personal relationships, and affiliative families gave unconditional support without stressful expectations for achievement.

Learning theories and social learning theories make important contributions to the understanding of how family thought characteristics are developed through role-modeling, and example. Spaced repetition is a powerful force in nature that forms habitual responses to stimuli in the physical and social environment. Skinner (1953) came to believe that all behaviours, values, attitudes, and emotional responses were learned by associating rewarding and punishing reinforcements in the past and present environments.

#### Commonalities Within The Four Growth Styles

The satisfaction-growth styles have in common a strong confident motivation toward growth, as opposed to an uncertain, fear-based concern for security. As a consequence, these styles focus on growth, success, adaptation, and achievement with varying degrees of emphasis on task and people. It seems that these styles develop from a series of successful experiences since childhood that creates a more optimistic perspective regarding problem-solving and success. These successful experiences lead to a more realistic, objective

sense of reality, and higher levels of self-esteem. Concurrently, there seems to be parallel development along the dependence to independence continuum characterized by a more internal locus of control that leads to increased levels of confidence and personal power.

### Developing Confidence

Lafferty (1980) found that people motivated by the satisfaction-growth styles had developed more optimistic, confident attitudes. A confident attitude translates into a positive prediction of success, and an internal feeling of control. Many researchers have studied the attributions people use to predict success and failure.

Piaget (1952) found that human development was governed by the need to strive for balance between meaningful, and realistic understanding of the environment, and meaningful and realistic ability to cope with the environment.

Lafferty (1980) seems to take Piaget's (1952) ideas into account when he suggests that the four growth styles involved more realistic goal-setting, so success was more, predictable, less confusing, and less subjective.

Horn and Hasbrook (1987), and Harter (1981a) found that individuals who develop high self-perceptions of their competence had a strong belief in their ability to control outcomes, and as a consequence developed, and

internalized a set of achievement standards with which they evaluated their own performances; but they also found support for the notion that growth toward a more internal motivational system was developmental.

### The Developmental Formation of More Internal Thinking Styles

Little (1985), Inhelder and Piaget (1958), Piaget (1932), Weiner and Peter (1973), and Leichmann (1976) found that young children evaluated achievements based on observable, concrete, and immediate outcomes, along with the feedback of significant adults. This research supports Lafferty's (1980) conclusions that thinking styles and motivation patterns are readily absorbed by young children through the examples demonstrated by family members.

Morris and Nemcek (1982), Pascuzzi (1981), Ruble, Boggiano, Feldman and Loebl (1980), Stipek and Tannatt (1984), Cook and Stingle (1974), Horn and Hasbrook (1987), and Kagan and Madsen (1972) found that social-peer comparison became more important over the elementary school years to reach its highest intensity during adolescence.

Little (1985) Frieze and Bar-Tal (1980), and Frieze, Francis and Hanusa (1983), and Harter (1981a) suggest that older students began to attribute success levels to more abstract psychological characteristics such as effort, ability, and behaviour. They discovered that cognitive maturation

resulted in the internalization of achievement standards that led to more independent motivational orientations.

Further research by Harter (1981a) found that some individuals never developed this internal structure, continuing to depend on external information to evaluate outcomes.

This research seems to suggest that individuals learn through a series of developmental stages, and that those individuals who learn to believe in their ability to control the outcomes of their performance develop an internal locus of control, and therefore, more confidence; however, individuals who come to believe they have less control over the outcomes of their performance continue to rely on external sources of information to evaluate their competence. The degree of task- and people-orientation within the satisfaction-growth styles suggests that families, and individuals develop varying levels of belief in their ability to control outcomes in terms of people and tasks. Frieze, Francis and Hanusa (1983), Minton (1979), and Scanlan (1982) allude to this observation when they suggest that there were many sources of information an individual might use to judge competence.

The relationships between more effective thinking styles, a more internal locus of control, and higher levels of achievement seem to be crucial to understanding the development of more effective leadership styles.

The positive relationships between higher achievement and a more

internal locus of control has been supported by research by King (1983), Thomas (1980), Cooper (1971), Freire (1973), Illich (1978), Toffler (1980), and Berhalter (1976). Crandall (1965), Chance (1965), Brown and Strickland (1972), Bar-Tal (1980) and Rotter (1966) found that people with a more internal locus of control were involved in more achievement-oriented activities, and at a consistently higher level than externals, because they perceived events and achievements to be more contingent upon their own behaviours, as opposed to luck or chance.

Lafferty's (1980) satisfaction-oriented thinking styles incorporate these concepts developed from the research of McClelland (1951), McClelland (1976), Rogers (1961), Herzberg (1966), Sullivan (1953), and Maslow (1954).

This research suggests that the internal standards, goals and aspirations of vice-principals and principals, drives them to achieve positions of added responsibility.

Allport (1961) investigated the dependent-independent continuum as part of the theory of functional autonomy. He found that self-sustaining personal goals and standards matured in individuals at varying rates. Erikson (1963) posited that the psycho-social stage of autonomy-doubt was a recurring theme throughout the stages of life. These concepts dove-tail with the humanistic ideas of Rogers (1961) and Maslow (1954), which suggest that people grow more independent, responsible, and self-sufficient as they move



toward self-actualization, or their ideal self.

### Achievement and Locus of Control

Part of the preparation process involved in becoming a principal and vice-principal requires a relatively high achievement drive. Academic qualifications have progressed to include advanced university degree work, and considerable time is required in committee work and professional development. The extremely high scores for the satisfaction-growth styles on the Life Styles Inventory indicates that vice-principals and principals see themselves as very achievement-oriented. The four growth styles demonstrate varying motivational preferences for achievement along a continuum that ranges between task and people. The slight preference for the two more people-oriented growth styles labelled humanistic-helpful, and affiliative suggests that vice-principals and principals are part of a process that emphasizes achievement with people.

This may indicate a significant trend that differs from the industrial era, when individuals were less significant and more dependent, governed by rigid roles defined by hierarchical authority structures.

Question 2: How security-oriented are the thinking styles of principals and vice-principals?

## Findings

The Life Style Inventory measures the security-orientation of principals and vice-principals along two distinctive categories.

The aggressive-defensive thinking styles that place more emphasis on task-orientation were measured on the thinking styles labelled: Clock 7—oppositional; Clock 8—power; Clock 9—competitive; and Clock 10—perfectionistic.

The passive-defensive thinking styles that place more emphasis on the people-orientation were measured on the thinking styles labelled: Clock 3—approval; Clock 4—conventional; Clock 5—dependent; and Clock 6—avoidance.

Although all eight of the security-oriented thinking styles scored well below all of the satisfaction-oriented thinking styles, the statistics illustrated some strong relative relationships between these thinking styles.

The passive-defensive people-oriented thinking styles measured by Clocks 3—approval, 4—conventional, and 5—dependent clustered with higher results for the mean, standard deviation, mode, median and minimum/maximum scores as shown in Table 16.

The passive-defensive thinking style measured by Clock 6 which measures avoidance scored very low in comparison to the cluster of three thinking styles of this category.

The aggressive-defensive thinking styles that relate more to a task-orientation were measured to be generally much lower than the passive-defensive thinking styles, except for the thinking style labelled clock 10—perfectionistic, which was much higher than all of the other passive or aggressive thinking styles by an impressive margin.

The thinking style measured by clock 9—competitive was somewhat more popular than the two lowest scoring aggressive-defensive styles labelled Clock 7—oppositional and Clock 8—power, but Clock 9—competitive was still quite a bit lower than the cluster of three passive-defensive styles.

## **Discussion**

### **The Lower-Level Security-Based Needs**

The security-oriented thinking styles scored much lower than the satisfaction-growth-oriented thinking styles. According to research by Maslow (1954) the security-oriented needs were the lowest and most basic categories, on a hierarchy of needs that included an individual's physiological, biological, tissue, safety and security needs. Maslow (1954) found that gratification and satisfaction of these lower needs, to a certain degree must occur before a person could be released from their domination, and move on to address the emergence of the higher more satisfaction-growth-oriented needs.

The relatively low scores on the security-oriented thinking styles

suggests that principals and vice-principals see themselves as more satisfaction-growth-oriented in their thoughts, motivations and behaviours.

### Socioeconomic Status

The above-average socioeconomic status of Hamilton principals and vice-principals places these individuals in a position where physiological and economic stresses are minimal. Salaries are above average, and conditions of job security and physical safety are excellent. These life circumstances would strongly support Maslow's (1954) ideas that principals and vice-principals get enough satisfaction of their lower level security-needs to allow them to address the higher more satisfaction-oriented needs.

The relationships between socioeconomic status, achievement, and self-concept were investigated by Marsh, Parker and Smith (1983), and Song and Hattie (1984). Socioeconomic status was best indexed by the ability of a family to afford further education. The effect of socioeconomic status on achievement was indirectly created through the effects on a family's self-concepts or thinking styles. This research suggests that the home environment that principals, and vice-principals were exposed to as children had an influence on their motivational styles, especially the fact that they were able to afford a high level of education.

### Security Needs and Change

Shapiro (1988) expresses the opinion that the rigid systems of the past are ineffective during a technological era full of rapid change. He suggests that security-based conformity to rigid power structures and their associated inflexible thinking patterns is going the way of the dinosaurs.

These comments indicate that the modern educational landscape characterized by more freedom, uncertainty, and accelerant change could be a source of stress for vice-principals and principals, that triggers security-oriented thinking styles.

Maslow (1954) put forward the idea that safety and security needs are often expressed as a preference for the familiar, and as a consequence, people generally share a tendency to avoid the anxiety and stress created by accelerant change and the uncomfortable adjustments required to strive for higher levels of satisfaction.

Maslow's (1954) work indicates that people that are motivated by safety and security find change very threatening. Typical responses to situations judged to be threatening is the development of short-term strategies to alleviate the anxiety and stress, and through these short-term strategies, long-term habitual thinking patterns evolve.

### Security-Based Thinking Styles and Comfort Zones

Selye (1973), and Pelletier (1977) explain distress responses in terms of the general adaptation syndrome. They describe the process as a generalized response that involves the whole body and all of its systems, rather than specific responses. They found that a person's psychophysiological functioning changes dramatically as a result of an individual moving beyond their comfort zone. A person's comfort zone was defined as a generalized group of experiences within which a person feels they have an adequate amount of control. Cooke and Lafferty (1981) determined that a person's thinking patterns played an important part in determining the adjustments made in response to specific life experiences.

Lafferty (1980) found that people are motivated to alleviate the anxiety created by stressful situations, so that they can return to a comfort zone characterized by an acceptable level of feeling and perception of control.

### Passive-Defensive Thinking Styles

The cluster of higher scores for the passive-defensive people-oriented thinking styles labelled: Clock 3—approval, Clock 4—conventional and Clock 5—dependent suggests that interpersonal relationships are a source of stress for vice-principals and principals.

### Approval—Clock 3

Lafferty (1980) describes individuals who demonstrate the approval thinking style as people who respond to anxiety-producing situations by trying to make sure everyone likes and accepts them, agreeing with people in authority, and feeling upset if their ideas are not accepted. Lafferty (1980) considered this style to be very self-defeating because it demonstrates over-concern for the opinions of others, and a relative lack of concern for task achievement. This style caused a person's self-esteem to fluctuate depending on the degree of approval received from others.

Lafferty (1980) found that people with this style in management focused on how people reacted to them, anticipating in advance what others would think. This perspective was found to reduce creativity and standards of performance because differences of opinion were avoided at all costs.

Managers with the approval style were found by Lafferty (1980) to feel stifled and inhibited because the motivation for approval destroyed the person's chances to express their uniqueness and creativity.

Lafferty (1980) discovered that as children, approval-motivated individuals often lived in a home environment that created a reward and punishment schedule that suppressed the creative expression of the person's uniqueness. The intense need for recognition from parents and others created a security-oriented passive-defensive adaptation to the stresses perceived in the

social environment.

Research by Lafferty (1980) found that managers with this style were seen by others as wishy-washy and too agreeable. The creative drive for self-actualization was found to be deadened because relationships were built on passivity and dependence.

#### Conventional—Clock 4

Lafferty (1980) describes the conventional thinking patterns as a style motivated by the need to be reliable, maintaining the status quo, following the rules, and the need to never look bad to superiors or subordinates. Scoring high in this style indicated a person's concern for people as a source of security, in that they are motivated by the need to appear normal and conventional. They seek safety and acceptance and approval from others through conformity. As a consequence, individuals motivated by conventionality, rarely seek out unique or original solutions because their basic need is to meet the expectations of other people in authority.

This style differs from the approval style, in that individuals motivated by conventionality are less concerned with approval from other people, but more concerned with accepted conventional behaviours that conformed to the rules.

Conventional managers were found to operate on the basis of policies,



rules, and procedures designed to maintain the status quo. They were overly concerned with appearances, codes, and conformity to the formal relationships established within an organization, having a strong orientation to the way things were done in the past.

These thinking style characteristics may have been the reason why Lafferty (1980) found that many conventional managers felt bored and they often found it difficult to accept change. He found that conventional people translated democratic ideals, such as the majority rules to mean that the majority is right, and so they sacrificed their own identity, needs and values in order to please the system or their superiors.

#### Dependence—Clock 5

Lafferty (1980) describes people who use the dependence thinking style as individuals who reduce anxiety and stress by worrying about what might happen, by doing what they are told and expected to do, and by asking others what they think they should do before making decisions.

This security style is often used to deal with new situations or authoritarian environments.

Lafferty (1980) found these people to be very sensitive to the needs of other people, rarely demanding but most often compliant, considerate, and overly-appreciative of attention from others. People scoring high in this

thinking style demonstrated a strong concern for physical and psychological security so their fears produced a strong need to avoid threatening or challenging others.

Lafferty (1980) found that managers with strong dependency needs often became skilled at manipulating superiors and subordinates, motivating them by appealing for help so that other people ended up planning and doing the work. They were excellent followers, delaying action until it is clear what others want.

Dependent managers often felt they had little control over their lives, but they had many positive traits that made them good followers, including persistence, respect, tact and modesty; as leaders they were much too security-oriented.

Lafferty (1980) found that managers demonstrating strong dependency styles often developed this style in a home environment that involved dominating or overly-protective parents. As a consequence, opportunities to grow by taking a risk were minimal. This pattern was found by Lafferty (1980) to be more common in large families and among more women than men in most cultures.

### The Cluster of Three Security-Oriented Styles

The cluster of higher scores for approval, conventional, and dependent

thinking styles supports the notion that interpersonal relationships can be a source of stress for principals and vice-principals. These fear-based security-people-oriented passive-defensive styles all have in common the need to conform, due to a fear of the opinions of other people.

Maslow (1954) found that the avoidance of growth and the setting of low levels of aspiration were defenses that he believed had a dehumanizing effect on people. Carl Jung (1956) expressed his belief that if collective man suffocated the individual, then the individual loses his sense of responsibility, which is the foundation of every human achievement.

The helpless, out-of-control feelings common to all three of these styles relates to the research mentioned for the satisfaction-growth styles on achievement, locus of control, family background.

Lafferty (1980) discovered that these passive-security-oriented styles were related to the dominating and protective family environments that created an atmosphere where risk-taking was discouraged and compliance to the values of other people was reinforced.

The psychological anxiety produced by over-concern for the esteem of others relates to the third level of Maslow's (1954) hierarchy. Piaget (1952) refers to the feedback of significant others as very important in the lower stages of cognitive development, and Morris and Nemcek (1982), Pascuzzi (1981), Ruble, Boggiano, Feldman and Loeb (1980), Stipek and Tannatt

(1984), Cook and Stingle (1974), Horn and Hasbrook (1987), and Kagan and Madsen (1972) found that peer opinions reached their highest importance during adolescence.

The implication from this research is that passive-security-people-oriented styles may be a response to stressful situations that involves a regression to less mature coping styles used at an earlier stage in one's development. Selye (1973), and Pelletier (1977) describe distress as movement outside a person's comfort zone, the area beyond where a person feels that they have adequate control. The cluster of high scores for these styles implies that principals and vice-principals use these conforming security styles to regain their sense of control.

#### Regression to Security-Based Styles

Freud (1940) argued that there were five stages of development and motivation that needed resolution before maturation, and he felt the degree of resolution of these stages affected the interaction of the id, ego and superego. Freud's (1940) research led him to believe that anxieties and fears were expressed in disguised forms in an attempt to avoid loss of self-esteem. As a consequence, psychoanalytics study the unhealthy adaptive behaviours caused by these anxieties.

Erikson's (1963) psycho-social stages identify many of the internal

conflicts that are part of the security-oriented thinking styles such as mistrust, doubt, guilt, inferiority and confusion.

Roger's (1977) humanistic theories suggest that dependence and conformity are both necessary stages leading toward independence, self-sufficiency and self-actualization.

The conforming-orientation of the cluster of three passive-security styles suggests that principals, and vice-principals are sensitive to interpersonal anxieties and that they have a tendency to conform to group norms when they feel the stress of moving beyond their comfort zone. Rogers (1951) found that the more a person denied and repressed their own true feelings, and took on the values of others, the more anxiety they felt.

The cluster of three passive-defensive styles, also have in common a more external locus of control that can be understood in terms of the research on internal-external frames of reference.

Marsh, Smith, and Barnes (1985) Marsh and Parker (1984), and Marsh (1984) found that individuals appraise their own abilities, then compare this perception with the abilities of other individuals within their frame of reference, and use this relativistic impression as one basis for forming their self-concept. This theory suggests that a person's self-concept will change according to their external frame of reference.

Sullivan (1947) described the self-concept as developing out of a

person's perceptions of the reactions of others. Crandall (1969), Dweck, Goetz and Strauss (1980), Licht and Dweck (1982), Stipek and Hoffman (1980), Bandura (1977), Covington (1984), Nicholls (1982), Werner (1979), Harter (1983), Lynch (1981), and Harter (1978) found support for the idea that the maturity of a person's cognitive development determines their perception of reality and this perception of reality, rather than actual reality, is the more powerful predictor of achievement motivation and behaviour.

This research suggests that principals and vice-principals maintain growth-oriented thinking styles with more internal locus of controls, but when they are stressed and feel the anxiety of losing control to external sources such as the opinions of other people, they regress to short-term strategies that include the cluster of three security-oriented styles.

The complex problems facing principals and vice-principals within an increasingly multicultural society involve a great deal of interpersonal conflict. Duane, Bridgeland and Stern (1986) found that principals, and vice-principals were expected to integrate, and coordinate the needs of many diverse groups in a time of accelerant change, and as a consequence, an environment has developed that is too complex to be simply dealt with using standard bureaucratic procedures.

### Avoidance—Clock 6

The avoidance style scored very low compared to the cluster of three passive-defensive styles, and the scores for avoidance were very similar to the two lowest aggressive-defensive styles labelled power—Clock 8, and oppositional—Clock 7.

The avoidance thinking style received the lowest scores for the passive-defensive people-oriented styles by a wide margin in this study of principals and vice-principals.

Lafferty (1980) found that people who responded to stressful situations with avoidance reduced the anxiety created by stressful situations by letting someone else take care of the problem, leaving to get away from the situation, not taking any chances, and not making any decisions.

People demonstrating this defensive style avoid threatening situations with people because they are motivated by a need to protect their own security rather than a desire to solve a problem involving interpersonal conflict. This style leads to procrastination and avoidance which prevents managers from addressing issues that involve tasks and people.

This basic need for security expressed through avoidance may reflect self-blame over real or imagined mistakes in the past. By trying to escape their own feelings, these individuals develop varying levels of inability to comprehend the feelings of others.

The avoidance style in management was found by Lafferty (1980) to lead to the avoidance of decisions that involve solving problems and confronting conflicts. These managers typically shifted responsibility for decision-making up or down the organization, abdicating responsibility rather than delegating responsibility. They were often found to wait until someone else recommended action or took the initiative. They also frequently disappeared or became ill when situations began to box them into a corner.

Lafferty (1980) considered the avoidance style the most destructive and self-defeating style because it destroyed the achievement motivation while at the same time producing ineffective interpersonal relationships. He suggests that this style is learned in a childhood environment where children are ignored and are expected to keep out of the way. This environment produces strong feelings of helplessness that results in lack of self-confidence, reduced self-esteem, and fear of failure.

### The Aggressive-Defensive Styles

The scores for the aggressive-defensive task-oriented thinking styles labelled competitive—Clock 9, power—Clock 8 and oppositional—Clock 7 were lower than the passive-defensive thinking patterns, except for the perfectionistic style—Clock 10 which received scores that were higher than all eight of the security-based thinking styles, aggressive or passive in orientation.



### Perfectionistic—Clock 10

Lafferty (1980) found that people motivated by thinking styles that were perfectionistic reduced anxiety and stress by hiding their emotions, acting totally confident, setting above-average goals, and seeking recognition through competence and perfection.

This style reflected a strong concern for gaining satisfaction from task achievements, but the perfectionistic motivations could be self-defeating. Perfectionistic managers wanted to be seen as superior, independent, confident and competent. This characteristic can be self-defeating if a person's self-esteem fluctuates with their feelings of competency.

Perfectionistic thinking styles can produce a narrow-minded task focus that ignores the needs of other people, especially when performances are judged to be failures if they do not reach their perfectionistic standards. As a consequence, they are often hampered by the recollection of past failures.

Our society rewards this style even though this style rarely has a perspective of the big picture. Perfectionistic managers tend to set unrealistically high goals for themselves and their subordinates with elaborate reporting systems that render their strong need for achievement ineffective.

Highly perfectionistic managers are often hard driving, forceful, action-oriented, and very persistent in their pursuit of goals. They are very practical, accomplishing tasks in a business-like manner, de-emphasizing

feelings to the point that other people often see them as indifferent and self-centered. Competency is very important to these individuals so they can become very impatient with their own errors and the mistakes of others.

Lafferty (1980) found that perfectionistic managers often come from a family environment where very high unrealistic goals were set by their parents. Self-worth becomes attached to mistakes and failures to the point that hiding mistakes can become as important as not making them.

Managers with this style continually work to achieve, most often performing well above average but they rarely feel a true sense of accomplishment because other people find them rigid, judgmental and impatient.

The perfectionistic style describes many of the chauvinistic values common in the typical macho male. Since Canadian society has evolved from the British military traditions of authority, according to Dennis (1988), the perfectionistic style would be a logical regression in times of anxiety and stress.

As our society evolves from the industrial age to the technological age, Shapiro (1988) suggests that there will be regressions to less flexible patterns of thinking because of the stresses created by rapid change.

Toffler (1990) suggests that the industrial era stimulated organizations and individuals to become more effective through the perfecting and mechanizing of tasks, while dehumanizing the people involved within this

system. He found that this stage may have been appropriate when change was relatively slow, but the present and future pace of change demands a more holistic and integrative system, and this will involve thinking styles that are more balanced in task- and people-orientation.

Today's educators are expected to solve the complex problems facing an increasingly multicultural society. They are under attack by parents, media, business, universities and politicians for the inadequate ability of young people to meet the challenges of the real world.

It is easy to see how principals and vice-principals would, under stress and time constraints, regress to a style that demands unrealistic results without mistakes.

### Competitive—Clock 9

The competitive thinking style was the second highest aggressive-defensive security-oriented style. The scores of this style were much lower than the perfectionistic style, and significantly lower than the cluster of three passive-defensive styles.

Lafferty (1980) discovered that individuals motivated by the competitive thinking style reduce anxiety and stress by competing with other people, turning jobs into contests, and often overestimating their ability to handle situations. The feeling of control that comes from winning provides these

people with a sense of security. Their self-esteem is connected to the praise and admiration that comes from winning, and this is similar to the need for recognition demonstrated by individuals high in the approval style; however, the competitive style fulfills these needs through a more active-aggressive expression.

Competitive managers operate within a win-lose framework motivated by their need to do better than others, so planning is often poor due to a lack of cooperation and collaboration with others. This style often leads to the selection of weak subordinates that do not challenge decisions.

Competitive managers tend to be very self-centered individuals who constantly compare themselves with others, attempting to create an impressive image and a sense of superiority. They are assertive, and self-sufficient, having many of the qualities required of successful, effective leaders, but they need to control their incessant drive to win so they can learn the benefits that come from cooperative achievement.

Competitive styles are encouraged by Western society; recognition, approval, and judgmental comparisons teach people to measure their success in terms of other people's standards.

Lafferty (1980) found that competitive individuals react to life situations, rather than creating their own unique experiences and so their self-esteem fluctuates according to the performances of others, and another

consequence of this is the motivation to hide weaknesses. They plan and manipulate situations in non-productive ways so they can be the star.

The perfectionistic, and competitive thinking styles reflect a more active-aggressive response to anxiety and stress. The external recognition of accomplishments suggests that people powered by these motivational styles are similar to the passive-defensive styles in that they seek approval, by conforming to the external achievement values that they see society considering to be important.

The concept of internal-external locus of control can be seen to affect the satisfaction-levels of people with these styles.

### Power and Oppositional Styles

The aggressive-defensive task-oriented thinking styles labelled power—Clock 8, and oppositional—Clock 7 scored much lower than the other aggressive styles labelled perfectionistic and competitive, and their scores were very similar to the scores tabulated for the lowest passive-defensive style labelled avoidance—Clock 6.

### Power—Clock 8

Lafferty (1980) describes the power-oriented individual as a person who reacts to stressful situations that are anxiety-producing by taking charge,

strengthening their own position, being tough, feeling angry, or becoming vengeful.

Individuals motivated by power have been found to waste a great deal of time, energy and creativity striving for individual power and control. They use task achievement to gain prestige, and positions of authority to fulfill their security needs. They tend to respond very strongly when their power and security is threatened.

Other people feel manipulated because power-oriented individuals see different perspectives as threatening to their sense of control and the authority of their position. The underlying basic motivation driving the development of the power style are intense but unrecognized feelings of helplessness. Power managers are often not cognizant of the feelings of the people that are a part of their team. They tend to design goals themselves expecting compliance; however, they do listen quite attentively to superiors.

Power managers find it difficult to delegate authority, so they require strict reporting systems, generally supported by motivators based on fear and punishment. Subordinates tend to become highly dependent, because decision-making capacity is withheld.

Success comes with little satisfaction to these managers because they convey a tough, demanding approach to life. Their personal concern for power, prestige, influence and control often overrides the motivation for achievement.

Power managers often come from families where they were taught that children were not very important, so they developed the need for the security that comes from having the respect of others. Parents in these families often use scare tactics to teach respect, so they learn the power that comes from the fear of authority. Excessive parental domination creates a feeling of dependency and helplessness; this in turn results in the child counteracting the feeling of helplessness by dominating and manipulating other people.

#### Oppositional—Clock 7

Lafferty (1980) describes the oppositional style as a pattern of thinking that is used by individuals who react to stressful situations by being skeptical, aloof and cynical, finding someone or something to blame, pointing out as many flaws as possible, so the need to question is carried to extreme. These individuals are often seen as detached, objectively examining everything, and as a consequence this style often antagonizes other people causing them to become defensive.

Lafferty (1980) hypothesized that the oppositional style might be a paradoxical reflection of a strong unexpressed need to be close to other people.

Oppositional thinking styles are useful if they can be expressed with the attitude of weeding out irrelevant and inconsistent information, but the fact

that it triggers defensive behaviours in other people makes this style counterproductive.

Oppositional managers are usually more concerned with their personal need for recognition than how effectively they work with their subordinates. They tend to gain personal feelings of self-esteem by challenging the ideas of others. They enjoy arguments and debates so they are often the centre of organizational conflict. They may argue for the sake of opposing, so their true opinions are not necessarily expressed.

The oppositional thinking style produces a person who does not trust other people very much, is very hard to impress, and a person who is resistant to new ideas.

Children often learn this style in an environment where they were constantly measured against others, and they never took satisfaction from the results they achieved. Their parents seldom gave meaningful feedback, and the negative rather than the positive was stressed.

The oppositional style was found to be common during transitional stages such as age two to four, adolescence, and mid-life, where a person is motivated to change, and feels a need to attack the status quo, in order to move ahead; but a constant pattern of testing other people frustrates the development of close relationships.



Question 3: Is there a relationship between stress levels and the thinking styles of principals and vice-principals?

### **Findings**

Table 7a illustrates the stress levels of principals and vice-principals specifically on the job. The bulk of the respondents reported that they felt moderately relaxed to very relaxed while on the job; yet on the time orientation scale, sixty-one percent of the participants scored on the tense side of the scale.

Table 11 focused on a number of positive and negative changes that occurred in the lives of principals and vice-principals. The results of this table suggest that generally the principals and vice-principals of this study experienced relatively few major changes in their lives during the preceding year. There were a few life events that stood out, including the twenty-one percent experiencing the death of a family member or close friend; sixteen percent experiencing a family injury or illness; and eleven percent experiencing a personal injury or illness. There were a few categories that stood out not because of their negative connotation but because they were a change factor, such as twenty-five percent of the participants experienced a change in responsibilities at work.

Generally, the principals and vice-principals participating in this study experienced relatively few significant life changes. The major indicator of

stress seemed to be the large percentage who reported a pressured time-orientation on the job.

The general overall pattern of thinking style preference for the principals and vice-principals showed that the four satisfaction-oriented thinking styles were a very high first priority, with a strong secondary preference for the cluster of three passive-defensive styles. At the same time, Clock 10—perfectionistic stood out as the highest scoring defensive style.

## **Discussion**

The principals and vice-principals reported they were predominantly relaxed on the job, and that they were flexible in their ability to change their behaviour and thinking styles to meet the challenges of their lives. The life events results suggest that the majority of principals and vice-principals experienced relatively few major life changes that would create high stress levels.

These findings suggest that these principals and vice-principals see themselves as relaxed, flexible and satisfied with their ability to adapt to the stress levels they experience in their lives. The extremely high scores for the satisfaction-growth thinking styles suggests that these managers saw themselves as dealing with the problems they faced in their lives in satisfying ways.

The relatively high number of participants that scored their time

orientation as tense and pressured suggests that this may be a stress factor contributing to the regression to the cluster of three passive-defensive styles, and the perfectionistic, or competitive aggressive-defensive styles.

Lafferty (1984) found a significant relationship between time-orientation and the level of effectiveness with which a person used their time. He found that a pressured, time-orientation created tension and competition with subordinates because of a crisis management attitude that left little time to be sensitive to their own feelings or the feelings of others.

He found that a pressured time-orientation was found to interfere with satisfaction-oriented growth styles, and led to regression to fear-based security-oriented adaptive strategies.

Selye (1973) and Pelletier (1977) support the notion by Lafferty (1984) that movement out of a person's comfort zone results in increased irritability, dissatisfaction, subjectivity and inability to respond to a big picture perspective, and these factors which indicate a feeling of loss of control result in reduced levels of effective communication.

Newburger and Daniel (1985), and Gilkinson and Knower (1941) studied the effect of internal-external frame of referencing to find that emotional and behavioural responses affected the rapport a person had with other people, and rapport determined the level of a speaker's effectiveness. The ability to gain rapport was found to be indicative of the degree of internal

emotional organization within a person, which was directly related to a person's attitudes toward his audience, and himself.

Lafferty (1984) confirms this relationship when he says that a person pressured by time tends to impose this thinking and attitude on their work habits, needs, and personal relationships; as a consequence, they are likely to experience physical and emotional symptoms that impact on their personal and professional lives. Lafferty (1984) found that this feeling of being in a rush, and the inability to slow down produced security-oriented coping styles that reflected this feeling that external events were in control of their time. A crisis management style created an environment where an intense state of vigilance was required much of the time.

Lafferty (1984) discovered that individuals with a pressured time-orientation often came from families and environments where they received more attention for accomplishment, they had to compete for rewards, or they were pressured to do more by comparing their achievements to more successful people. This relates to the aggressive-defensive strategies labelled perfectionistic and competitive. Lafferty (1984) and Herzberg (1980) found that satisfaction levels were directly related to the extent that a person derives pleasure from the process of achieving intrinsically motivated goals, and that failure to select, prioritize, organize, and accomplish meaningful activities was directly related to increased levels of strain and stress.

The pressured time-orientation of these principals and vice-principals must then be related to the effectiveness with which they use their time. Lafferty (1984) refers to time utilization as the efficiency with which an individual manages themselves and their environment for the purpose of achieving their goals and priorities. He found that time pressure could produce confusion, feelings of loss of control, disorganization, procrastination and many symptoms of strain, all indications of ineffective time utilization. It is obvious that time orientation and time utilization influence each other in positive and negative ways, and both of these orientations impact on the level of satisfaction a person experiences.

The time orientation of principals and vice-principals was reported to be pressured and tense. This result seemed to be counter to the strong scores indicating that these managers are primarily satisfaction-oriented, and that their life event experiences indicated relatively low levels of stress.

Selye (1973) and Pelletier (1977) found that the individual components of frequency, intensity, and duration of change had an influence on stress levels also. Table 11, listing life events, indicates that a change in responsibilities in work was the most significant statistic, reporting that twenty-five percent of the participants may have received a promotion to vice-principal, principal, or a different school. Thirteen percent also indicated an outstanding personal achievement.

Table 5 indicates that seven vice-principals had no years of experience, sixteen had one year, and seventeen had two years of experience as vice-principals. Table 6 indicates that twenty-nine principals had no years of experience, seven had one year, and five had two years of experience as a principal. These figures suggest that many of the participants may be working in situations new to them, and as a consequence, perceptions of high time pressure may be related to experiences with new situations.

Sergiovanni and Carver (1980) suggest that principals and vice-principals feel pressure to maintain a positive educational climate in spite of declining enrollment, financial cutbacks, constant curriculum change and delivery, integration of special education students, the needs of an aging teaching staff, the effects of the fracturing of nuclear families, the influence of television and video programs on values and behaviour, and the increase of inappropriate behaviours associated with sex, violence and drugs. Duane, Bridgeland and Stern (1986) found that so many factors interact that they create an environment too complex to be reduced to simple bureaucratic procedures. This research gives credibility to the idea that principals and vice-principals new to a position of added responsibility, may find these demands very stressful in terms of their time orientation.

**Question 4:** Is there a relationship between the levels of life satisfaction and

the thinking styles of principals and vice-principals?

### **Findings**

Table 8 presents the statistics on how satisfied the principals and vice-principals felt about their lives. All of the scales showed a very high level of satisfaction with their lives in general. Interpersonal relations with co-workers and superiors scored very high. The only discrepancy that seems noteworthy is the fact that the participants reported high social and mental satisfaction, yet the lowest score, which was still high at seventy-seven percent, was focused on the satisfaction the respondents felt about their physical health.

The thinking styles reported by principals and vice-principals on the Life Styles Inventory indicated an extremely high satisfaction-growth-orientation with a slight preference for people-oriented styles.

### **Discussion**

The results of this study suggest there is a very strong positive relationship between the high levels of life satisfaction that principals and vice-principals report themselves as experiencing and the high satisfaction-growth-oriented thinking styles they see themselves as using.

The lower satisfaction that these managers felt, in terms of their health, may be a function of several factors. Table 2 indicates that twenty-seven

principals are over fifty years old, and this may influence their opinions. Table 11 reports that life events such as personal and family injury or illness may play a role in this response.

Question 5: Is there a relationship between the levels of stress symptoms and illness and the thinking styles of principals and vice-principals?

### **Findings**

Table 9 tabulates the frequency of physical symptoms that relate to stress levels. Heart problems, fatigue, and anger/frustration stood out as symptoms that were much higher than all of the rest. Tension headaches showed lower on the scale but they were still relatively high.

Table 12 reported the occurrence of stress symptoms assessed by a doctor. Overweight by twenty pounds or more registered the highest percentage, with high blood pressure, tension headaches, and migraines scoring a little lower but with similar higher percentages.

Table 13 presents a more comprehensive list of physical symptoms that were reported by the principals and vice-principals. The highest frequencies registered between twelve and twenty-one percent. Overeating was highest on the list followed by fatigue, headaches, back pain, tense neck and jaw, sleeplessness and biting nails.

Table 14 illustrates the number of days spent in the hospital. Five



participants in the study spent three days to twenty-two days in the hospital.

Table 15 presents the statistics on the number of days missed at work by the respondents. Six participants were absent from work for lengthy time periods of from ten to twenty-two days. Five participants were absent from work from four to eight days.

The principals and vice-principals of this study showed an extremely high preference for the satisfaction-growth-oriented styles. The security-oriented styles showed a high preference for the aggressive-defensive perfectionistic style, followed by a preference for the cluster of three passive-security styles, followed by the aggressive-defensive competitive style.

## **Discussion**

Durst (1987) and Lafferty (1980) found that individuals at the highest levels of development experienced tension and stress in the form of anger, anxiety, fear and disappointment, but as a specific response to specific problems that they encounter as opposed to the free-floating anxiety or hostility that is prevalent in the lower, more security-oriented styles.

Maslow (1954) described the highest level of development as self-actualization, Rogers (1961) labelled this stage as fully-functioning, Sullivan (1953) referred to this stage as integrated, and Berne (1964) called it the winning stage. Lafferty (1980) developed four thinking styles using his

research into these stages of higher thinking. The key characteristic of this stage is that these individuals take more responsibility for their reactions to events, and experiences, and so potentially damaging emotional responses pass quickly; however, security-oriented styles may prolong damaging emotional responses for days or weeks. Durst (1987) found that people with satisfaction-growth styles quickly used negative emotional responses to motivate behavioural actions that change, adjust and adapt so that they gain control and improve the situation. Lafferty (1980) and Durst (1987) found that satisfaction-growth styles placed less stress on the human body in terms of frequency, duration, and intensity; as a consequence, they experienced fewer physical symptoms of poor health.

The high preference for the aggressive-defensive perfectionistic style followed by the much lower scoring competitive style indicates that many of the principals and vice-principals adapt to anxiety-producing experiences by becoming highly task-oriented. The pressured time-orientation leading to less effective time-utilization and lower levels of satisfaction, as discussed in research Question 3 applies to these two aggressive styles in particular. Medical research is developing a substantial amount of support for the conclusion that emotional stress contributes a great deal toward physical illnesses and their related symptoms.

Friedman and Rosenman (1974) found that security-oriented

aggressive-achievement styles often led to coronary heart disease. The motivation to accomplish more in less time was found to interrupt sleep patterns, and managers with these styles often felt exhausted because of the excessive amounts of energy they expended.

Table 9 indicates that fifty-one percent of the participants have frequent heart problems, and thirty-six percent had heart problems sometimes. Although these figures do not reflect the specific heart problems, this statistic was by far the highest symptom pattern reported. Table 12 reported high blood pressure of twelve percent, and Table 13 reported cold hands and feet at eleven percent. Although these figures were low they were higher than most of the others, and they do have a relationship to the cardiovascular system.

The principals and vice-principals reported on Table 9 that fifteen percent experienced fatigue and tiredness frequently, and sixty-one percent experienced fatigue sometimes. Table 13 reported that twenty percent experienced fatigue.

The extremely high perfectionistic scores and the high percentages for heart problems and fatigue in relation to other stress effects reported supports the research of Friedman and Rosenman (1974), Durst (1987), Lafferty (1984), Selye (1973), and Pelletier (1977) on the effects of time-pressured over-achievement thoughts and behaviours.

The cluster of three passive defensive-styles powered by a need to

conform produces a state of vigilance as if a person is anticipating an emergency or crisis. A helpless feeling of inadequacy and negative anticipation is projected into the interpretations of their experiences. Durst (1987) found that anger and frustration were experienced on a frequent basis by people who used the conforming styles because they often become psychologically attached to their negative experiences.

Maslow (1954) described conforming individuals as rigid people, who try to control their emotions, often becoming very neat and systematic in an attempt to gain security through order, lack of threat, predictability, control and mastery.

In today's fast-moving, changing society, to attempt to avoid the anxiety resulting from change is fruitless, so conformists often resort to psychological denial to justify continued use of their present views.

Durst (1987) found that conformists operate through a system that tells them what they ought to do or what they should do, which is similar to the perfectionistic style. Forty-eight percent of the participants reported that they experienced anger and frustration sometimes, and three percent of the participants reported that they experienced anger and frustration frequently. This finding supports the results that suggest that the participants were primarily growth-oriented, but when stressed they respond primarily using the perfectionistic-style, or the cluster of three conforming styles, both of which

Durst (1987) found to produce frustration and anger.

Durst (1987) and Lafferty (1984) found that the vigilance required of the conforming styles produced a serious energy drain on a person's body, and as a consequence, the result was often fatigue, feelings of tiredness and exhaustion. Table 9 illustrates that fifteen percent of the participants felt fatigue or tiredness frequently, and sixty-one percent sometimes. Table 13 reported that twenty-percent of the respondents experienced fatigue.

Twenty-four percent of the participants reported on Table 12 that they were overweight by twenty pounds or more. On Table 13, twenty-one percent reported overeating as a stress effect. Durst (1987) found that a typical symptom of conformity is overeating to avoid tension, or lack of appetite which is described by Selye (1973) as part of the stress response in the general adaptation syndrome.

Durst (1987) found that sleep disturbances were a characteristic of the conformist styles. Sleeping to escape or sleeplessness and insomnia were found to be related to conformity. Table 9 shows that twenty-six percent of the respondents experienced sleeplessness. Table 13 shows that twelve percent reported sleeplessness.

Durst (1987) found that conforming styles were linked to frequent and severe headaches. Table 9 reports that thirty-two percent experienced tension headaches sometimes, and seven percent frequently. Table 12 reported

nineteen percent having tension headaches, while Table 13 reported nineteen percent experiencing headaches.

Lafferty's (1984) research revealed that the perfectionistic thinking style which produced a pressured time-orientation was strongly associated with headaches, back pain, tense jaw and neck, sleeplessness, frequent colds, cold hands and feet, nail-biting, fatigue, cardiovascular problems and overeating.

The majority of principals and vice-principals were absent four days or less from work, and the vast majority of the participants spent no time in the hospital. These figures confirm the research by Durst (1987) that highly responsible, and satisfaction-oriented individuals experience fewer health problems and they recover much more quickly when they do become ill or injured.

Question 6: Is there a relationship between the life style habits and the thinking styles of principals and vice-principals?

### **Findings**

Table 10 illustrates the substance use and life style habits of the principals and vice-principals. Coffee and tea registered as the most regular life style habit on the table. Breakfast was a priority for most of the participants but fifty-eight percent of respondents eat foods with high fat content on a regular basis. Forty-two percent to forty-nine percent of the

participants reported overeating, and use of alcohol, salt, and sugar on a regular basis. Forty-nine percent of the principals and vice-principals do thirty minutes of aerobic exercise at least two times weekly on a regular basis.

## **Discussion**

Since the results of this study suggest that these principals and vice-principals are extremely satisfaction-growth-oriented the life style habits should reflect this positive orientation. The life style habits that have a negative impact on their lives should relate to the security-oriented styles that they use when experiencing anxiety and stress.

Durst (1987) found that conformist styles come to rely on drugs to help them cope. They take drugs to relieve general tension, rather than for specific problems. He found that they often became dependent on sleeping pills, tranquilizers, stimulants, and aspirin to feel better. Marijuana and alcohol were often found to be used to excess to alleviate stress, so episodic drug use became a recurring theme in the conformist's life. Control of substances is lost to dependence which is indicative of problems in the underlying thinking patterns of an individual. Durst (1987) found that medical assistance was relied upon to feel better, and advice to change, such as to stop smoking, lose weight, and exercise more, rarely resulted in consistent or persistent follow-through.

Ten percent of the participants reported use of cigarettes sometimes or frequently. Forty-eight percent of the participants use alcohol sometimes or frequently. Only twenty-three percent use aspirins sometimes or frequently, but eighty-five percent use coffee or tea sometimes or frequently. These statistics show that principals and vice-principals may use these drugs to relieve the general tension created by conforming coping styles. Certainly, coffee and tea drinking is related to social conformity in our society and many people are dependent on coffee and tea to stimulate their body throughout the day. The low aspirin statistics indicate that headaches may not be a frequent occurrence. Cigarette smoking has become a habit for very few of the participants indicating that general tension for most of the participants is not a problem. Alcohol was not used frequently by many participants but many did use alcohol sometimes, possibly to relieve the anxiety created by conforming styles.

The nutrition and overeating habits may indicate that the participants adjust their eating habits to avoid tension. Durst (1987) found the conformist styles did not tend to exhibit much self-discipline.

Durst (1987) and Friedman and Rosenman (1974) found that over-achieving styles like perfectionistic and competitive led to individuals very deliberately using sleeping pills, tranquilizers, stimulants and depressants. Coffee, aspirin and alcohol are traditionally the coping substances of the over-achiever used to relax, to relate to others, and to restore equilibrium.



Durst (1987) considered the over-achievers' use of substances not as abuse because they were conscious of what they were taking, and they were aware of the effects, and why they took these substances. They used the substances to reduce tension, and dispense with them when not under pressure. He found that they didn't need these substances to get through a normal day, nor did they take drugs automatically when anything went wrong. Gladstone (1978) confirmed these findings.

The statistical results from Table 10 support the notion that the participants see themselves as responding perfectionistically to anxiety-producing situations. This over-achieving style uses the traditional drugs of coffee, aspirin and alcohol to relieve specific tensions. Coffee and tea, however, seems to have become habits rather than substances used to alleviate specific tension problems.

Question 7: Is there a difference in the pattern of thinking styles reported by principals and vice-principals when gender is considered?

### **Findings**

There is a significant difference in the thinking style of males and females in four of the thinking styles measured on the Life Styles Inventory. All of those significant differences occur in the defensive-oriented thinking styles and no significant differences occurred in the four satisfaction-oriented

thinking styles.

In the passive-defensive more people-oriented thinking styles females scored significantly lower on the conventional thinking style labelled Clock 4, and the avoidance thinking style labelled Clock 6. Females scored lower than males on the other passive-defensive thinking styles also, but the results were not significant.

In the aggressive-defensive more task-oriented thinking styles females scored significantly lower on the oppositional thinking style labelled Clock 7, and the competitive thinking style labelled Clock 9. Females scored lower than males on the other aggressive-defensive thinking styles also but the results were not significant.

Although the differences in gender calculated for the satisfaction-oriented thinking styles showed that females were inclined to be more satisfaction-oriented the differential statistics were insignificant. Of special note, however, was the slightly lower score for females for the satisfaction-oriented style labelled affiliative—Clock 2.

## **Discussion**

Females scored significantly lower on the passive-defensive styles labelled Clock 4—conventional and Clock 6—avoidance.

These results suggest that females respond to the anxiety and stress

associated with interpersonal conflict with less of a need to rely on policies and procedure, and less of a need to run away from people problems that need to be addressed.

The other passive-defensive people-oriented styles labelled approval and dependence also scored lower for the females, but the statistics were not significant. Nevertheless, females scored lower on all of the passive-defensive people-oriented styles. These results suggest that females feel less threatened by people problems, and they have not developed conforming thinking styles to the same degree as the males of this study.

Marsh, Smith and Barnes (1985), Dusek and Flaherty (1981), and Fleming and Courtney (1984) found that the socialization processes were different for males and females, and this process produces achievement differences. Robison-Awana, Kehle and Jenson (1986) found that sex role expectations in society had important influences on the development of a person's beliefs and prejudices.

Peck (1975) found that healthy adjustment in adolescence is characterized by the adoption of stereotypic masculine and feminine sex role orientation. Lerner, Sorell and Brackney (1981) suggested that an individual's self-definition should be compatible with the demands society places on the individual. He suggested that high self-esteem in the current Western society requires both masculinity and femininity with a greater emphasis on

masculinity for both sexes.

Robison-Awana, Kehle and Jenson (1986) found that exceptions to the gender stereotyping occurred in high-achieving females.

The females of this study scored significantly lower for the aggressive-defensive styles labelled Clock 7—oppositional, and Clock 9—competitive. Females scored lower than males on the other aggressive-defensive styles labelled perfectionistic, and power but the results were not significant.

These results suggest that females feel less threatened by task problems, and they have not developed aggressive task-oriented styles to the same degree as the males of this study to alleviate the associated stress and anxiety.

These results suggest that the security-oriented styles are used to a lesser degree by females. If this pattern is true, the females of this study perform at the satisfaction-growth levels much more of the time, they address problems from a position within their comfort zone more of the time, and they resort to security-oriented thinking styles less readily.

The females scored higher for the satisfaction-growth styles labelled achievement, self-actualization and humanistic helpful although the differences were not statistically significant. This finding suggests that high-achieving females tend to develop satisfaction-growth styles to a higher level than males.

### Limitations

Although the findings of this study support the conclusions that there are some generalizable patterns and relationships between the thinking patterns of principals and vice-principals and stress levels, satisfaction levels, physical symptoms, life style habits, and gender, there are some factors that limit this generalizability.

The nature and size of the sample limits the generalizability of this research. The sample included forty-five principals and thirty vice-principals, clearly not large enough to extrapolate results to include principals in general, or vice-principals in general, especially since the sample was taken from the specific area of the Hamilton Public Board of Education, Ontario, Canada. The sample was taken from a group that had experienced a wide range of responsibility and experience, from both the elementary and secondary schools of Hamilton. For example, the number of students in the schools ranged from sixty-six to one thousand four hundred fifty, and the number of teachers in the schools ranged from eleven to ninety-four. This range of experience would make it difficult to attribute the patterns found in the research to specific job experiences. The number of years of experience as a vice-principal ranged from zero to twenty-one years, and the years of experience as a principal ranged from zero to twenty-three years. These statistics further indicate the wide diversity of experience that the sample was taken from. If stress effects

and thinking styles are developmental, the statistics concerning the age groupings of principals and vice-principals show that their ages ranged from late thirties to early fifties. These age ranges would influence the generalizability of the results.

The small sample size of seventy-five principals and vice-principals, with so many ranges in responsibility and experience, makes the generalizability very limited.

The proportion of women and men in the sample makes the generalizability suspect. There were six female principals and eleven female vice-principals in the sample for this research. The small number of females makes the relationships discussed in research Question 7 on gender differences suspect, and in need for further study.

The sensitivity of the instruments may have affected the results. Although the Life Styles Inventory is well researched it is a self-assessment instrument which measures the subjective opinions of the participants concerning their own thinking styles. People generally like to see themselves and portray themselves to others in a more positive light than may reflect reality.

The information gathered on the two-page questionnaire designed by the author was not researched and the sensitivity of this questionnaire could be questioned.

The Life Styles Inventory is a self-report questionnaire that was designed by Lafferty (1980) based on his study of the work of Maslow (1954) and many other prominent researchers that investigated the complex nature of human motivation. Maslow's (1954) theory based on a hierarchy of needs is widely accepted because it seems so logical, but little research evidence exists to support this theory, particularly the notion of prepotency between the levels of the hierarchy. The clarity of each of the thinking styles on the Life Styles Inventory, and the hierarchical ordering of the styles around a clock illustration may reflect more the commercial marketing plans, than the reality of the ordering, although the validity and reliability analysis statistics were excellent.

Future research into the effectiveness of leaders in education will need to focus on how the stress of accelerant changes in society is affecting the health and satisfaction levels of principals and vice-principals. Studies should focus on more homogeneous grouping and they should include larger numbers of participants. Specific focus on female administrators is needed to determine if the trends discovered in this study are supported.

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**APPENDIX A: LETTER TO PRINCIPALS AND VICE-PRINCIPALS**

From: Robert J. Frame  
Franklin Road Elementary School  
500 Franklin Road  
Hamilton, Ontario L8V 2A4  
388-4731 - Work

197 Golflinks Road  
Ancaster, Ontario  
L9G 2N4  
648-8083 - Residence

Dear \_\_\_\_\_,

Remember when you worked on your Master of Education degree thesis or project. Tedious and time-consuming but very rewarding especially if the topic excited you. My thesis topic involves the relationships between Self-Concept, Leadership, Motivation and Stress Management.

The life styles inventory developed by Human Synergistics compliments and surpasses the practical applications of other self-knowledge instruments like: Myers-Briggs and 4-MAT. I plan to solicit responses from 100 to 125 Principals and Vice-principals. Each inventory costs approximately \$7.00. Because of the cost to survey such a large number - if you do not wish to participate in this research I ask that you return the Life Styles Inventory to me as soon as possible.

The executive of the H.P.A. encouraged me to approach individual principals and vice-principals with my proposal.

#### Proposal

1. All information will be strictly confidential. If you wish, do not sign your name. Put a number or code on all 3 forms.
2. Fill in the self-scoring Life Styles Inventory which measures self-concept and thinking styles. Transpose your total scores to the circular graph called a Circumplex. Directions are on the forms.
3. Fill in the Personal Life questions on the back of the form plus I will enclose a separate stress factor question form of my own making. Fill in all categories please.
4. I will return your Life Styles inventory form with an explanation in depth for each of your PRIMARY THINKING STYLES.
5. I will conduct, at your option to attend, a workshop to debrief the thinking styles inventory, explaining how to interpret and use the information for personal change and growth.

I ask for your help in completing my thesis research on Self-Concept, Leadership, Motivation and Stress. Complete confidentiality will be assured by placing a code or number on the forms. If you record your number or code you can pick out your forms at the optional workshop debriefing with complete anonymity.

Sincerely,



Robert J. Frame

p.s. With genuine respect for your busy schedule, I hope you will return your forms to my home address or school address as soon as possible.

**APPENDIX B: LIFE DATA, LIFE EVENTS AND LIFE SATISFACTION**

**LIFE DATA (à la Frame)**

Print Name or Code: \_\_\_\_\_

**(A) PERSONAL DATA**

1. Age \_\_\_\_\_
2. Gender \_\_\_\_\_
3. School \_\_\_\_\_
4. Student Population \_\_\_\_\_
5. Number of Teachers \_\_\_\_\_
6. Circle position of leadership • Principal (or) V. Principal
7. Years as V.P. \_\_\_\_\_ As a Principal \_\_\_\_\_

**(B) LIFE EVENTS**

1. Considering general factors like family relationships, work satisfaction, finances and life changes HOW would you describe the stress load in the last year (circle)

LIGHT --- MEDIUM --- HEAVY

2. On the job, how would you describe yourself: (Circle the number that applies.)

relaxed/at ease

1.	2.	3.	4.	.5	.6	.7

tense/stressed

3. On the job my time orientation feels:

relaxed pace

1.	2.	3.	4.	.5	.6	.7

hurried, tense pace

4. How open & truthful were you in completing the Life Styles Inventory?

very honest/open

1.	2.	3.	4.	.5	.6	.7

somewhat guarded/  
felt uncomfortable

5. How easy is it for you to change your behaviour, thinking and style if you desire to do so?

easy

1.	2.	3.	4.	.5	.6	.7

difficult

PRINT NAME or Code: \_\_\_\_\_

**(C) LIFE SATISFACTION** (Please circle appropriate category.)

How satisfied would you say you are with your:

	Not Satisfied	Somewhat Satisfied	Satisfied	Very Satisfied
1. Interpersonal relations with superiors	1	2	3	4
2. With your ability to manage stress	1	2	3	4
3. Your health	1	2	3	4
4. General state of mind	1	2	3	4
5. Interpersonal relations with co-workers	1	2	3	4

**APPENDIX C: STRESS EFFECTS AND SUBSTANCE ABUSE**

**LIFE DATA (à la Frame)**

Print Name or Code: \_\_\_\_\_

**(D) STRESS EFFECTS**

Please label YES or NO those that apply to you and then circle the frequency:

		Rarely	Sometimes	Frequently
1.	_____ heart problems ----->	0	1	2
2.	_____ high blood pressure ----->	0	1	2
3.	_____ headaches a) tension ----->	0	1	2
	_____ b) migraine ----->	0	1	2
4.	_____ back pain ----->	0	1	2
5.	_____ tense jaw & neck ----->	0	1	2
6.	_____ colds ----->	0	1	2
7.	_____ sleeplessness ----->	0	1	2
8.	_____ cold hands and/or feet ----->	0	1	2
9.	_____ anger/frustration ----->	0	1	2
10.	_____ feeling fatigued, tired ----->	0	1	2

**(E) SUBSTANCE USE** (Please circle the frequency that applies to you)

	Never	Rarely	Sometimes	Frequently
1. cigarette smoking	1	2	3	4
2. overeating	1	2	3	4
3. alcohol	1	2	3	4
4. aspirins	1	2	3	4
5. salt	1	2	3	4
6. sugar	1	2	3	4
7. breakfast	1	2	3	4
8. coffee/tea	1	2	3	4
9. other medications	1	2	3	4
10. high fat content meat/foods	1	2	3	4
11. aerobic exercise for minimum 30 minutes 2 x weekly	1	2	3	4

**(F) FUTURE FEEDBACK**

If you wish the results returned by mail, please print:

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Would you be interested in attending the optional debriefing workshop? Yes/No

**APPENDIX D: PERSONAL DATA, LIFE EVENTS, STRESS EFFECTS**



Please respond to the following items to support our ongoing research effort. If you would rather not, please indicate that in the spaces provided.

## PERSONAL DATA

Age	Occupation
<input type="checkbox"/> A. Under 20	<input type="checkbox"/> A. Owner-Officer
<input type="checkbox"/> B. 21-29	<input type="checkbox"/> B. Key-Level Manager
<input type="checkbox"/> C. 30-39	<input type="checkbox"/> C. Mid-Level Manager
<input type="checkbox"/> D. 40-49	<input type="checkbox"/> D. Divisional/ Department Head
<input type="checkbox"/> E. 50-59	<input type="checkbox"/> E. Supervisor/ Foreman
<input type="checkbox"/> F. 60 & over	<input type="checkbox"/> F. Sales
	<input type="checkbox"/> G. Teacher
Sex	<input type="checkbox"/> H. Medical
<input type="checkbox"/> A. Female	<input type="checkbox"/> I. Engineer
<input type="checkbox"/> B. Male	<input type="checkbox"/> J. Accountant
	<input type="checkbox"/> K. Banker
Ethnic Background	<input type="checkbox"/> L. Consultant
<input type="checkbox"/> A. White/Caucasian	<input type="checkbox"/> M. Other _____
<input type="checkbox"/> B. Black	
<input type="checkbox"/> C. Hispanic	Yearly Personal Income
<input type="checkbox"/> D. Asian	<input type="checkbox"/> A. \$10,000 or under
<input type="checkbox"/> E. American Indian	<input type="checkbox"/> B. \$10,001 to \$18,000
<input type="checkbox"/> F. Other _____	<input type="checkbox"/> C. \$18,001 to \$25,000
	<input type="checkbox"/> D. \$25,001 to \$35,000
Education	<input type="checkbox"/> E. \$35,001 to \$50,000
<input type="checkbox"/> A. Less than High School Grad.	<input type="checkbox"/> F. \$50,001 to \$60,000
<input type="checkbox"/> B. High School Grad.	<input type="checkbox"/> G. \$60,001 to \$75,000
<input type="checkbox"/> C. Technical School	<input type="checkbox"/> H. \$75,001 to \$90,000
<input type="checkbox"/> D. Some College	<input type="checkbox"/> I. \$90,001 plus
<input type="checkbox"/> E. Technical Degree	
<input type="checkbox"/> F. College Degree	Organization Size
<input type="checkbox"/> G. Advanced College Work	<input type="checkbox"/> A. Less than 100 people
<input type="checkbox"/> H. Other _____	<input type="checkbox"/> B. 100 to 500 people
	<input type="checkbox"/> C. 500 people plus

## LIFE EVENTS

Please check as many of the following that have happened to you in the last year:

<input type="checkbox"/> I prefer not to respond to this
<input type="checkbox"/> 1. death of spouse
<input type="checkbox"/> 2. divorce
<input type="checkbox"/> 3. marital separation
<input type="checkbox"/> 4. served jail term
<input type="checkbox"/> 5. death of family member or close friend
<input type="checkbox"/> 6. loss of intimate relationship
<input type="checkbox"/> 7. personal injury or illness
<input type="checkbox"/> 8. marriage
<input type="checkbox"/> 9. fired at work
<input type="checkbox"/> 10. retired
<input type="checkbox"/> 11. marital reconciliation
<input type="checkbox"/> 12. family injury or illness
<input type="checkbox"/> 13. pregnancy
<input type="checkbox"/> 14. gain of new family member
<input type="checkbox"/> 15. change in financial state
<input type="checkbox"/> 16. severe legal difficulties
<input type="checkbox"/> 17. change to different line of work
<input type="checkbox"/> 18. parental separation or divorce
<input type="checkbox"/> 19. foreclosure of mortgage or loan
<input type="checkbox"/> 20. change in responsibilities at work
<input type="checkbox"/> 21. son or daughter leaving home
<input type="checkbox"/> 22. trouble with in-laws
<input type="checkbox"/> 23. outstanding personal achievement
<input type="checkbox"/> 24. begin or ended school
<input type="checkbox"/> 25. spouse begins or stops work
<input type="checkbox"/> 26. assume heavy financial burden
<input type="checkbox"/> 27. trouble with boss
<input type="checkbox"/> 28. change in residence
<input type="checkbox"/> 29. trip abroad
<input type="checkbox"/> 30. minor violations of the law

## STRESS EFFECTS

Please check those that your doctor has told you that you have or have had.

<input type="checkbox"/> I prefer not to respond to this
<input type="checkbox"/> 1. Cancer (type _____)
<input type="checkbox"/> 2. Ulcer (type _____)
<input type="checkbox"/> 3. Colitis (type _____)
<input type="checkbox"/> 4. Heart disease (type _____)
<input type="checkbox"/> 5. Arrhythmia (tachycardia or fibrillation)
<input type="checkbox"/> 6. Arteriosclerosis (atherosclerosis)
<input type="checkbox"/> 7. High blood pressure (hypertension)
<input type="checkbox"/> 8. Anemia (type _____)
<input type="checkbox"/> 9. Diabetes (type _____)
<input type="checkbox"/> 10. Hypoglycemia (low blood sugar)
<input type="checkbox"/> 11. Tension headaches
<input type="checkbox"/> 12. Migraine headaches
<input type="checkbox"/> 13. Epilepsy
<input type="checkbox"/> 14. Temporary paralysis
<input type="checkbox"/> 15. Arthritis (type _____)
<input type="checkbox"/> 16. Asthma
<input type="checkbox"/> 17. Recurring bronchitis
<input type="checkbox"/> 18. Allergies
<input type="checkbox"/> 19. Dermatitis (type _____)
<input type="checkbox"/> 20. Recurring Herpes
<input type="checkbox"/> 21. Overweight (20 lbs. or more)

Please check those that frequently apply to you.

<input type="checkbox"/> I prefer not to respond to this	<input type="checkbox"/> 22. Grinding teeth
<input type="checkbox"/> 1. Chest pains	<input type="checkbox"/> 23. Biting nails
<input type="checkbox"/> 2. Throat constriction	<input type="checkbox"/> 24. Stuttering
<input type="checkbox"/> 3. Shortness of breath	<input type="checkbox"/> 25. Fatigue
<input type="checkbox"/> 4. Headaches	<input type="checkbox"/> 26. Irritability
<input type="checkbox"/> 5. Back pain	<input type="checkbox"/> 27. Anger
<input type="checkbox"/> 6. Tense neck and jaw	<input type="checkbox"/> 28. Unclear thinking
<input type="checkbox"/> 7. Cramps	<input type="checkbox"/> 29. Feeling fearful
<input type="checkbox"/> 8. Frequent colds	<input type="checkbox"/> 30. Feeling nervous
<input type="checkbox"/> 9. Sleeplessness	<input type="checkbox"/> 31. Difficulty in articulating thoughts
<input type="checkbox"/> 10. Loss of interest in sex	<input type="checkbox"/> 32. Forgetfulness
<input type="checkbox"/> 11. Tendency toward impotence/ frigidity	<input type="checkbox"/> 33. Depression
<input type="checkbox"/> 12. Sexual difficulties	<input type="checkbox"/> 34. Constipation
<input type="checkbox"/> 13. Rashes	<input type="checkbox"/> 35. Diarrhea
<input type="checkbox"/> 14. Hives	<input type="checkbox"/> 36. Indigestion
<input type="checkbox"/> 15. Frequent cold sores	<input type="checkbox"/> 37. Heartburn
<input type="checkbox"/> 16. Excessive perspiration	<input type="checkbox"/> 38. Frequent urination
<input type="checkbox"/> 17. Shaky hands	<input type="checkbox"/> 39. Over-eating
<input type="checkbox"/> 18. Dizziness	<input type="checkbox"/> 40. Loss of appetite
<input type="checkbox"/> 19. Blackouts (non-alcohol related)	<input type="checkbox"/> 41. Bloating
<input type="checkbox"/> 20. Fainting spells	<input type="checkbox"/> 42. Excessive gas
<input type="checkbox"/> 21. Cold hands and/or feet	<input type="checkbox"/> 43. Vomiting

Number of days in hospital last year \_\_\_\_\_

Number of days missed at work last year \_\_\_\_\_



**APPENDIX E: LIFE STYLES CIRCUMPLEX**

# LIFE STYLES CIRCUMPLEX

This circumplex allows you to profile your scores against those of 9,207 other individuals. In doing so, it converts your total score for each style to a percentile score.

